



10/583,184

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Markus Lauff et al.	Examiner:	Unknown
Serial No.:	10/583,184	Group Art Unit:	1752
Filed:	June 16, 2006	Docket:	2058.101US1
Title:	METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING		

RULE 1.47(a) PETITION TO FILE APPLICATION
BY OTHER THAN ALL INVENTORS

MS Petitions
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Pursuant to 37 C.F.R. § 1.47(a) and 35 U.S.C. § 116, second paragraph, Applicants submit this Petition seeking permission to file the above-captioned application (hereinafter "the application") without the signature of Florent Nicoulaud, and Samuel Rethore two of the eight joint inventors of the application, who are refusing to sign the application. The last known address for Florent Nicoulaud is Avenue du Docteur Fabre, Juan-Les-Pins 06160 France. The last known address for Samuel Rethore is 3, rue Henri Barbara, Valbonne 06560 France.

As set forth in more detail below, *bona fide* attempts have been made to present a copy of the application papers (specification, including claims, drawings, and declaration) to Florent Nicoulaud, and Samuel Rethore for their signatures. The undersigned, Andre L. Marais, is a patent attorney employed by the firm of Schwegman, Lundberg & Woessner P.A., and represents SAP AG, the assignee and owner of the application.

In accordance with M.P.E.P. § 409.03(a), a signed Combined Declaration and Power of Attorney document executed by the other inventors of the application, Markus Lauff, Patrice Seurat, Pascal T.C. Spadone, Axel Spriesterbach, Cedric S. P. Ulmer and Thomas Ziegert, are enclosed. Applicants include the fee of \$200.00 as set forth under 37 C.F.R. §1.17(g) herewith. If additional fees or credits should exist, please charge or credit Deposit Account No. 19-0743 in the appropriate amount.

11/08/2007 MKAYPAGH 00000047 190743 10583184

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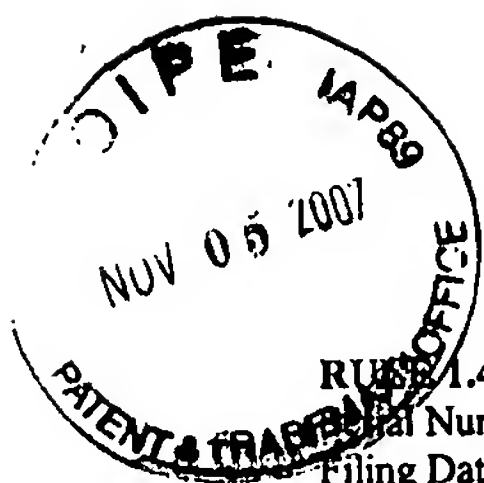
Included herewith are Exhibits A-C, which include letters to/from Florent Nicoulaud, and Samuel Rethore and Christine Chaux-Luedtke, who are believed to be the persons having first hand knowledge of the details as set forth in this Petition pertaining to the most recent attempts at seeking cooperation from inventors Florent Nicoulaud, and Samuel Rethore. It is believed that this Petition and the attached Exhibits constitute acceptable proof as to the inventors lack of response, failure and refusal to sign, and show that reasonable and diligent efforts were attempted to have the inventor join in the application.

Pertinent Facts Regarding Omitted Inventors Failure to Sign

United States Patent Application Serial No. 10/583,184 was filed on June 11, 2006 in the name of Markus Lauff, Patrice Seurat, Pascal T.C. Spadone, Axel Spriesterbach, Cedric S. P. Ulmer, Thomas Ziegert, Florent Nicoulaud and Samuel Rethore by attorneys with Schwegman, Lundberg & Woessner, P.A. The application was assigned to SAP AG by Markus Lauff, Pascal T.C. Spadone, Cedric S. P. Ulmer, and Thomas Ziegert as evidenced by the assignment from the inventors recorded June 16, 2006 at Reel 018020, Frames 0648-0654. It is our procedure at Schwegman, Lundberg & Woessner, P.A. to send copies of an application (specification, including claims and drawings), Declaration and, where applicable, an Assignment, to inventors for review and signature.

On August 5, 2006 Florent Nicoulaud, and Samuel Rethore were sent a copy of the specification, including claims and drawings, and a combined Declaration/Power of Attorney document for purposes of filing the present application. (*Exhibit A: SLW email to Inventors August 15, 2006 including attachments of the Declaration, Application and Assignment*).

Additionally, Ms. Chaux-Luedtke (Paralegal at SAP AG) indicated in an email to Nancy Cournoyer, an employee with the attorneys of record, Schwegman, Lundberg & Woessner, P.A., that Florent Nicoulaud, and Samuel Rethore refused to sign (*Exhibit B: Chaux-Luedtke email dated September 4, 2006 including signed certified mail labels and returned undeliverable*) It is believed that her emails included herewith constitute proof that Florent Nicoulaud, and Samuel Rethore were supplied the application papers and that they refused to execute the application papers accordingly.



RULE 1.47(a) PETITION TO FILE APPLICATION BY OTHER THAN ALL INVENTORS
Serial Number: 10/583,184
Filing Date: June 11, 2006
Title: METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING

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Dkt: 2058.101US1

In addition, on April 17, 2007, inventors Florent Nicoulaud, and Samuel Rethore were again sent a Combined Declaration/Power of Attorney document on which their signatures were requested for purposes of filing the present application, in an email from Dennis Wong, an employee with the attorneys of record, Schwegman, Lundberg & Woessner, P.A. (*Exhibit C: Wong email dated April 17, 2007 including attachments of the Declaration and Assignment*).

Applicants submit that the foregoing facts, as supported by the attached Exhibits A-C, establish *bona fide* attempts to comply with the provisions of Rule 1.47, and accordingly request that Applicants' Petition be granted.

CONCLUSION

The Examiner is invited to telephone Applicants' attorney at (408) 278-4042 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

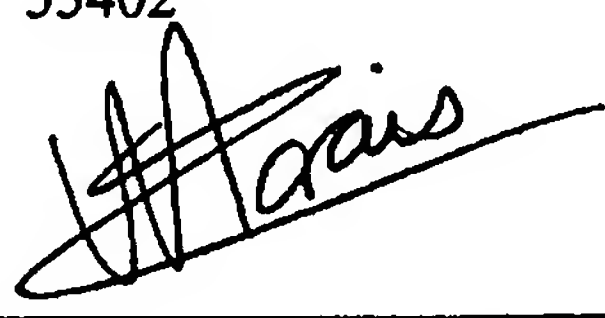
MARKUS LAUFF ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6976

Date 11/02/2007

By /


Andre L. Marais
Reg. No. 48,095

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Attn: Mail Stop Missing Parts, P.O. Box 1450, Commissioner for Patents, Alexandria, VA 22313-1450, on this 2 day of November, 2007.

Carol S. White
Name

Carol S. White
Signature

In re Patent Application of: Markus Lauff et al.
Title: METHOD AND COMPUTER SYSTEM FOR DOCUMENT
Attorney Docket No.: 2058.101US1

NSPCT

Receipt is hereby acknowledged for the following in the United States Patent and Trademark Office:

CONTENTS: A Transmittal Letter to the DO/EO/US (3 pgs.) (and duplicate copy thereof) concerning a *PCT - U.S. National Stage filing under 35 U.S.C. 371*; Preliminary Amendment (8 pgs.); Signed Combined Declaration and Power of Attorney (8 pgs.), including authorization to charge Deposit Account 19-0743 in the amount of \$900.00 to cover the filing fee; Assignment of the invention to *SAP AG* (6 pgs.) and Recordation Form Cover Sheet (1 pg.), including authorization to charge the Deposit Account No. 19-0743 in the amount of \$40.00 for the filing fee; Copy of: PCT/EP2004/053478 as published (International Publ. No. WO 2005/059743 A1) including specification (26 pgs. and claims 6 pgs., and 9 sheets of drawings). International Search Report (3 pgs.); Information Disclosure Statement (2 pgs.), Form 1449 (1 pg.) and copies of cited references (6); return postcard.

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Matter: [2058.101US1] METHOD AND COMPUTER SYSTEM FOR DOCUMENT
AUTHORING







From: Nancy Cournoyer

Date / Time Sent: Aug 5, 2006 9:24:42 AM

To: Florent Nicoulaud; Samuel Rethore; Axel Spriestersbach

CC: Peter Bittner; Christine Chaux-Luedtke; Andre Marais; Dawn Shaw

Subject: 2003P00960WOUS - SLWK - Ref: 2058.101US1 / SAP AG : URGENT ACTION
REQUIRED: SIGNATURES ON FORMAL DOCUMENTS REQUESTED

Attachment: 2058.101US1 Application as filed.pdf (1000 KB)  
2058.101US1 Unsigned Assign 4 inventors sent 8-5-06.pdf (23 KB)  
2058.101US1 Unsigned Dec POA 4 inventors sent 8-05-06.pdf (45 KB)  

Contents: SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
Patent Protection for High Technology
P.O. Box 2938
Minneapolis, Minnesota 55402
Telephone: 612-373-6900
Facsimile: 612 -339-3061

August 5, 2006

SAP AG
Dietmar-Hopp-Allee 16
Walldorf 69190
Germany

Re: Docket # 2058.101US1 - SAP AG
Ref. No. 2003P00960WOUS
U.S. Patent Application Serial Number: 10/583,184
Title: METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORING

CHRISTINE: I did NOT have an email address for inventor Patrice Seurat, would you please forward and update Dawn or myself with the email address. Thank you.

Dear Inventors:

Attached is a Combined Declaration and Power of Attorney document that must be executed to complete the filing requirements for the above-referenced patent application. I would ask you to review the attached copy of the application as filed and then sign and date the Declaration and Power of Attorney where indicated.

I have also attached an Assignment document to be executed by each of you.

If the inventor information is incorrect on either of the above-mentioned documents, I would ask you to manually correct the errors and initial all changes.

Please return the original set of executed documents to my attention by August 21, 2006. If the documents are not submitted in a timely manner an extension fee will be required in order to proceed with this matter. If you have any questions regarding this matter, please contact Andre L. Marais at the number listed below or Dawn Shaw at 408-278-4044.

Andre L. Marais is designated as the Schwegman Quality Assurance Officer for this matter. If you have any questions regarding this matter or the service you have been provided please feel free to contact him at 408-278-4042.

Very truly yours,

Nancy J. Cournoyer
Case Management Assistant

Attachment(s)

This electronic transmission contains information which is confidential and/or privileged. The information is intended for use only by the individual or entity named above. If you are not the intended recipient (or the employee or agent responsible for delivering this information to the intended recipient), you are hereby notified that any use, dissemination, distribution, or copying of this communication is prohibited. If you have received this information in error, please notify me immediately by telephone at 612-373-6900 or by electronic mail and delete all copies of the transmission. Thank you.

Schwegman, Lundberg, Woessner & Kluth P.A
1600 TCF Tower, 121 South Eighth Street, Minneapolis, MN 55402
Telephone: (612) 373-6900 Fax: (612) 339-3061 Web site: www.slwk.com

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Markus Lauff et al.

Title: METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING

Attorney Docket No.: 2058.101US1

Customer No.: 50400

PATENT APPLICATION TRANSMITTAL

MS PCT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

We are transmitting herewith the following attached items and information (as indicated with an "X"):

☒ A Transmittal Letter to the DO/EO/US (3 pgs.) (and duplicate copy thereof) concerning a *PCT - U.S. National Stage filing under 35 U.S.C. 371*.

☒ Preliminary Amendment (8 pgs).

☒ Signed Combined Declaration and Power of Attorney (8 pgs), including authorization to charge Deposit Account 19-0743 in the amount of \$900.00 to cover the filing fee;

☒ Assignment of the invention to SAP AG (6 pgs.) and Recordation Form Cover Sheet (1 pg.), including authorization to charge the Deposit Account No. 19-0743 in the amount of \$40.00 for the filing fee.

☒ Copy of: PCT/EP2004/053478 as published (International Publ. No. WO 2005/059743 A1) including specification (26 pgs. and claims 6 pgs., and 9 sheets of drawings, International Search Report (3 pgs.);

☒ Information Disclosure Statement (2 pgs), Form 1449 (1 pg.) and copies of cited references (6).

☒ Return postcard.

Please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

Customer Number: 50400

By: 

Attorney: Andre L. Marais

Reg. No. 48,095

Express Mail mailing label number: EV538500217US

Date of Deposit: June 16, 2006

This paper or fee is being deposited on the date indicated above with the United States Postal Service pursuant to 37 CFR 1.10, and is addressed to The Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371		ATTORNEY'S DOCKET NUMBER 2058.101US1
		U.S. APPLICATION NO. (If known, see 37 CFR 1.5)
INTERNATIONAL APPLICATION NO. PCT/EP2004/053478	INTERNATIONAL FILING DATE December 15, 2004	PRIORITY DATE CLAIMED December 18, 2003
TITLE OF INVENTION METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING		
APPLICANT(S) FOR DO/EO/US M. Lauff, F. Nicoulaud, S. Rethore, P. Seurat, P. T.C. Spadone, A. Spriestersbach, C. S.P. Ulmer, T. Ziegert.		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
<ol style="list-style-type: none">1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a submission under 35 U.S.C. 371.2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371.3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.4. <input checked="" type="checkbox"/> The US has been elected (Article 31).5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))<ol style="list-style-type: none">a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).b. <input type="checkbox"/> has been communicated by the International Bureau.c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).<ol style="list-style-type: none">a. <input type="checkbox"/> is attached hereto.b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))<ol style="list-style-type: none">a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).b. <input type="checkbox"/> have been communicated by the International Bureau.c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.d. <input type="checkbox"/> have not been made and will not be made.8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). <p>Items 11 to 20 below concern document(s) or information included:</p> <ol style="list-style-type: none">11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.12. <input checked="" type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.13. <input checked="" type="checkbox"/> A preliminary amendment.14. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76.15. <input type="checkbox"/> A substitute specification.16. <input checked="" type="checkbox"/> A power of attorney and/or change of address letter.17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821- 1.825.18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4).19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).		

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

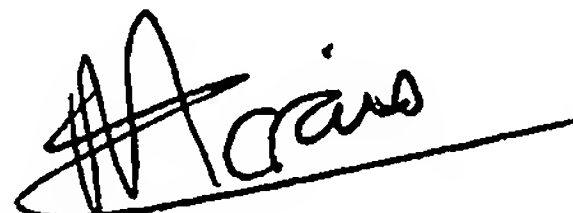
U.S. APPLICATION NO. (if known, see 37 CFR 1.5)		INTERNATIONAL APPLICATION NO. PCT/EP2004/053478		ATTORNEY'S DOCKET NUMBER 2058.101US1	
20. Other items or information: International Search Report (2 pgs.)					
The following fees have been submitted				CALCULATIONS PTO USE ONLY	
21. <input checked="" type="checkbox"/> Basic national fee (37 CFR 1.492(a))..... \$300				\$ 300.00	
22. <input checked="" type="checkbox"/> Examination fee (37 CFR 1.492(c)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 All other situations.....\$200				\$ 200.00	
23. <input checked="" type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority.....\$100 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB..... \$400 All other situations.....\$500				\$ 400.00	
TOTAL OF 21, 22 and 23 =					
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.					
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE		
- 100 =	/50 =		x \$250	\$	
Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).				\$	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	\$	
Total claims	16 - 20 =		x \$ 50	\$	
Independent claims	2 - 3 =		x \$200	\$	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$360	\$	
TOTAL OF ABOVE CALCULATIONS =				\$	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2.					
SUBTOTAL =				\$ 900.00	
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).				+	\$
TOTAL NATIONAL FEE =				\$	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				+	\$ 40.00
TOTAL FEES ENCLOSED =				\$	
				Amount to be refunded:	\$
				Amount to be charged	\$ 940.00

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

- a. ☐ A check in the amount of \$ _____ to cover the above fees is enclosed.
- b. ☒ Please charge my Deposit Account No. 19-0743 in the amount of \$ 940.00 to cover the above fees.
A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 19-0743. A duplicate copy of this sheet is enclosed.
- d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.

SEND ALL CORRESPONDENCE TO:



SIGNATURE

Andre L. Marais

NAME

48,095

REGISTRATION NUMBER

S/NUknown

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Marcus Lauff et al.	Examiner:	Unknown
Serial No.:	Unknown	Group Art Unit:	Unknown
Filed:	Herewith	Docket No:	2058.101US1
Title:	METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING		

PRELIMINARY AMENDMENT

MS PCT
Commissioner for Patents
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Prior to taking up this application for examination, please enter the following amendments:

IN THE SPECIFICATION

On page 1, please insert the following paragraph right below the Title and above Field of the Invention.

This application is a U.S. National Stage Filing under 35 U.S.C. 371 from International Patent Application No. PCT/EP2004/053478, filed on December 15, 2004, and published as WO 2005/059743 A1 on June 30, 2005, which in turn claims the priority benefit of EP Application No. 03029190.0 filed on December 18, 2003, the entire content of each application being incorporated herein by reference.

IN THE CLAIMS

1. (Currently Amended) An integrated development environment-(999) for developing user interface documents, comprising:
an editor-(104) ~~for editing~~ to edit a user interface document-(300) ;
an adaptation engine-(105) ~~for generating~~ to generate device class specific representations (301, 302) of the user interface document-(300), each device class specific representation (301, 302) referring to a respective device class-(DC1, DC2) ;
~~characterized in that~~
the integrated development environment-(999) further comprising a device class dependent complexity indicator-(121) ~~for determining~~ to determine complexity values of layout components-(1 to 9) of the device class specific representations (301, 302) by using complexity evaluation functions-(EF5-DC1, EF5-DC2, EF6-DC1, EF6-DC2), associated with the layout components (5, 6) and ~~for aggregating~~ to aggregate the complexity values by device class according to a corresponding layout component hierarchy-(321, 322) of the respective device class specific representation-(301, 302).
2. (Currently Amended) The integrated development environment of claim 1, further comprising:
a template wizard-(106) being interfaced to the editor-(104) ~~for creating~~ (502) to create a new user interface document-(300) by loading a predefined document template from the template wizard-(106) into the editor-(104).
3. (Currently Amended) The integrated development environment of claim 3, where the editor-(104) is interfaced to a template XML description file including information about different available document templates, the information comprising meta data about device classes supported by the templates.

-
4. The integrated development environment of claim 1 ~~any one of the previous claims~~, further comprising
a tree-based outline editor ~~(109)~~ for generating to generate an outline view ~~(209)~~ of the user interface document ~~(300)~~ when loaded into the editor ~~(104)~~, the tree-based outline editor ~~(109)~~ being interfaced to the editor ~~(104)~~ so that selection of an element ~~(209)~~ in the outline view ~~209~~ causes the editor ~~(104)~~ to highlight ~~(504)~~ a corresponding text portion ~~(309)~~ of the user interface document ~~(300)~~.
 5. (Currently Amended) The integrated development environment of claim 1 ~~any one of the previous claims~~, further comprising:
a code completion tool ~~(102)~~ for proposing to propose possibilities for auto-insertion of text in the editor ~~(104)~~ dependent on document context at a specific position within the user interface document ~~(300)~~.
 6. (Currently Amended) The integrated development environment of claim 1 ~~any one of the previous claims~~, further comprising:
a fragment repository ~~(123)~~ for saving to save from or loading to the user interface document ~~(300)~~ a document fragment having a layout that is specific to a specific device class.
 7. (Currently Amended) The integrated development environment of claim 1 ~~any one of the previous claims~~, further comprising:
a Java filtering tool ~~(108)~~ for hiding to hide Java code in the editor ~~(104)~~ when using an XML view for editing the user interface document ~~(300)~~, and ~~for editing to edit~~ edit Java code when activating a Java code view for editing the user interface document ~~(300)~~, wherein the editor ~~(104)~~ is configured to save the user interface document ~~(300)~~ including Java code independent from the current editing view.

8. (Currently Amended) The integrated development environment of claim 1 ~~any one of the previous claims~~, further comprising:
a device class dependent frames layouting view-(124) being interfaced to the editor-(104)
~~for providing to provide~~ an overview of presentation structures of the user
interface document-(300) for various device classes.
9. (Currently Amended) The integrated development environment of claim 1 ~~any one of the previous claims~~, further comprising:
a device class dependent page view-(122) ~~for using to use~~ the adaptation engine-(105) to
execute a pre-pagination run with respect to the device class specific
representations-(301, 302) and ~~for visualizing to visualize~~ the result of the pre-
pagination run for the respective device classes-(DC1, DC2).
10. (Currently Amended) The integrated development environment-(999) of claim 1 ~~any one of the claims from 1 to 8~~; wherein the device class dependent complexity indicator-(121)
is replaced by
a device class dependent page view-(122) ~~for using to use~~ the adaptation engine-(105) to
execute a pre-pagination run with respect to the device class specific
representations-(301, 302) and ~~for visualizing to visualize~~ the result of the pre-
pagination run for the respective device classes-(DC1, DC2).
11. (Currently Amended) The integrated development environment-(999) of claim 1 ~~any one of the claims from 1 to 7~~; wherein the device class dependent complexity indicator-(121)
is replaced by
a device class dependent frames layouting view-(124) being interfaced to the editor-(104)
~~for providing to provide~~ an overview of presentation structures of the user
interface document-(300) for various device classes.

12. (Currently Amended) The integrated development environment claim 11, further comprising:
a device class dependent page view ~~(122)~~ for using to use the adaptation engine ~~(105)~~ to execute a pre-pagination run with respect to the device class specific representations ~~(301, 302)~~ and for visualizing to visualize the result of the pre-pagination run for the respective device classes ~~(DC1, DC2)~~.
13. (Currently Amended) A computer implemented method for generating user interface documents, comprising the steps of:
loading a user interface document ~~(300)~~ into an editor ~~(104)~~;
generating device class specific representations ~~(301, 302)~~ of the user interface document ~~(300)~~ by using an adaptation engine ~~(105)~~, wherein each device class specific representation ~~(301, 302)~~ refers referring to a respective device class ~~(DC1, DC2)~~;
~~characterized in that~~ the method comprises the further steps operations performed by a complexity indicator ~~(121)~~ :
determining complexity values of layout components ~~(1 to 9)~~ of the device class specific representations ~~(301, 302)~~ by using complexity evaluation functions ~~(EF5-DC1, EF5-DC2, EF6-DC1, EF6-DC2)~~, associated with the layout components ~~(5, 6)~~;
and
aggregating the complexity values by device class according to a corresponding layout component hierarchy ~~(321, 322)~~ of the respective device class specific representation ~~(301, 302)~~.
14. (Currently Amended) The method of claim 13, further comprising ~~the further step~~:
providing an overview of presentation structures of the user interface document ~~(300)~~ for various device classes.

-
15. (Currently Amended) The method of claim 13-~~or 14~~, further comprising ~~the further steps~~:
executing a pre-pagination run with respect to the device class specific representations
(~~301, 302~~) by using the adaptation engine (~~105~~); and
visualizing the result of the pre-pagination run for the respective device classes (~~DC1,~~
~~DC2~~) in a device class dependent page view (~~122~~).
16. (Currently Amended) The method of claim 13-~~or 14~~, wherein the determining and
aggregating ~~steps~~operations are replaced by the ~~steps~~operations:
executing a pre-pagination run with respect to the device class specific representations
(~~301, 302~~) by using the adaptation engine (~~105~~); and
visualizing the result of the pre-pagination run for the respective device classes (~~DC1,~~
~~DC2~~) in a device class dependent page view (~~122~~).
17. (Canceled) ~~A computer system comprising at least one computing device having data
storage means and at least one processor to run an integrated development environment
(999) according to claim 1 any one of the claims 1 to 12.~~

PRELIMINARY AMENDMENT

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Conclusion

The Examiner is invited to telephone Applicant's attorney at 408-278-4042 to facilitate prosecution of this application.

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Respectfully Submitted,

MARCUS LAUFF ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

P.O. Box 2938

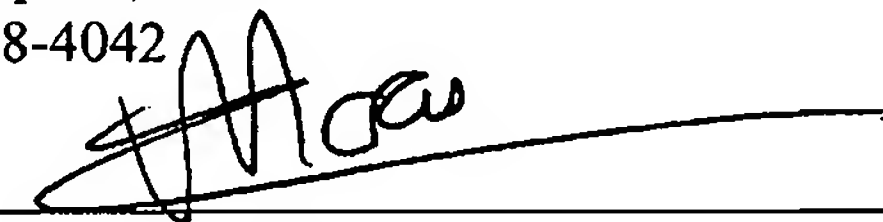
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(71) Applicant (for all designated States except US): SAP AK-
TIENGESELLSCHAFT [—/DE]; Patent, Neurottstr. 16,
69190 Walldorf (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LAUFF, Markus
[DE/DE]; Mozartstr. 23, 68723 Oftersheim (DE).
NICOULAUD, Florent [FR/FR]; 20 Avenue du Docteur
Fabre, F-06160 Juan-les-Pins (FR). RETHORE, Samuel
[FR/FR]; 3 rue Henri Barbara, F-06560 Valbonne (FR).
SPADONE, Pascal [FR/FR]; 11 Avenue Gambetta,

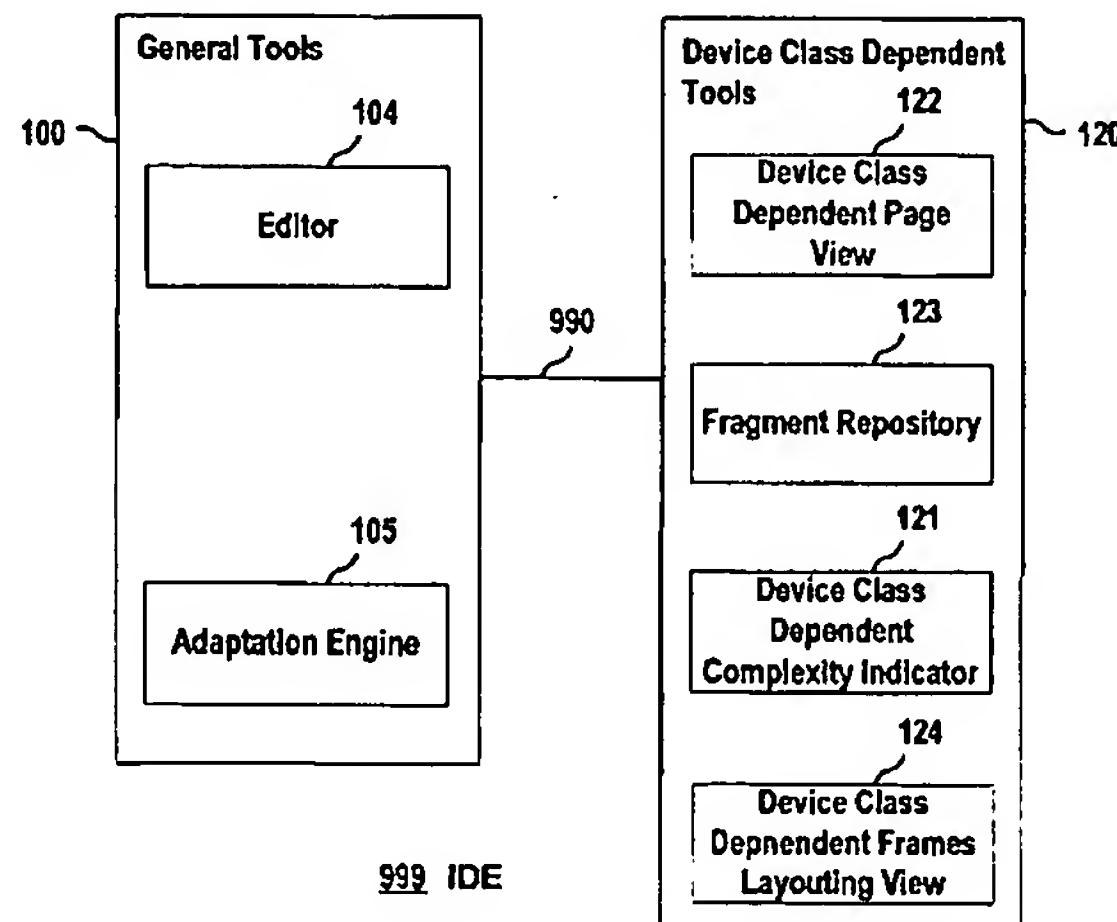
F-06600 Antibes (FR). SEURAT, Patrice [FR/FR]; Bat.
E Clair Logis, Avenue Frederic Mistral, F-06130 Grasse
(FR). SPRIESTERSBACH, Axel [DE/DE]; Jollystr. 49,
76137 Karlsruhe (DE). ULMER, Cédric [FR/FR]; La
Rouviere Bat A, Bd du Redon, F-13009 Marseille (FR).
ZIEGERT, Thomas [DE/DE]; Am Hopfengarten 4a,
64295 Darmstadt (DE).

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[Continued on next page]

(54) Title: METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORING



(57) Abstract: Integrated development environment IDE (999), method and computer system for developing user interface documents. An editor (104) is used for editing a user interface document. An adaptation engine (105) generates device class specific representations of the user interface document. Each device class specific representation refers to a respective device class. Device class dependent tools (120) of the IDE (999) are used for generating device class specific information and providing it to the author. Device class specific information can be information about the complexity of the user interface by device class provided by a complexity indicator (121), information about how many pages are generated for which device class provided by a device class dependent view (122) or information about the layout for various device classes provided by a frames layouting view (124).

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SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZINGField of the Invention

The present invention generally relates to electronic
5 data processing, and more particularly, relates to
methods, computer program products and systems for
document authoring.

Background of the Invention

10 Some software development platforms, such as the
Eclipse Platform, are designed for building integrated
development environments (IDEs) that can be used to
create applications as diverse as web sites, embedded
Java™ programs, C++ programs, and Enterprise
15 JavaBeans™. Although the Eclipse Platform typically
have built-in functionality, most of that functionality
is very generic. It takes additional tools to extend
the Platform for handling new content types, new
functionality for existing content types, and to focus
20 the generic functionality on specific tasks.

The Eclipse Platform is built on a mechanism for
discovering, integrating, and running modules called
plug-ins. For example, a tool provider can write a tool
as a separate plug-in that operates on files in the
25 workspace and surfaces its tool-specific user interface
(UI) in the workbench. When the Platform is launched, a
developer (also referred to as author) is presented
with an IDE composed of the set of available plug-ins.

More and more heterogeneous devices access
30 application servers running applications developed by
using an IDE. Current IDEs support the development of
user interfaces for applications that were originally
foreseen to interact with homogenous delivery context
(e.g., a screen of low resolution, such as 800x600
35 pixels). Developers have to adapt application user

interfaces for different types of delivery context.
This task becomes increasingly difficult with the prior art IDEs having a lack of specific support for device independent development of user interface documents.

- 5 Some web-development tools, such as DreamWeaver from Macromedia Inc., provide tools for XML validation, browser pre-visualisation and code completion. However, there is a lack of support for transforming device independent representations into various target
10 languages, such as WML or VoiceXML. Further, where device independent development is enabled it lacks support for visualization of the results.

Summary of the Invention

- 15 The present invention provides computer system, method and an integrated development environment according to the independent claims for improving the support for device independent authoring of user interface documents.

- 20 The various embodiments of the invention provide alternative solutions to support a document author to improve and accelerate the generation of a device class independent user interface document by generating device class specific information and providing it to
25 the author.

In one embodiment according to claim 1 the author can get information about the complexity of the user interface by device class through a complexity indicator.

- 30 In an alternative embodiment according to claim 10 the author can see how many pages are generated on the basis of the document for which device class in a device class dependent view.

- In a further alternative embodiment according to
35 claim 11 the author can get information about the

layout for the various device classes in a frames
layouting view.

Each of the alternative embodiments supports the
author to identify problems in a user interface
5 document related to device class specific restrictions
already during the development of the document.
Identifying such problems at early stages of the
development usually minimizes efforts for adjusting the
device independent document to better comply with the
10 various device class specific restrictions. A result of
the device specific document analysis with the above
embodiments can also be that a user interface document
cannot be used at all by devices belonging to a
specific device class. In this case the author may not
15 release the document for the specific device class.

The aspects of the invention will be realized and
attained by means of the elements and combinations
particularly pointed out in the appended claims. Also,
the described combination of the features of the
20 invention is not to be understood as a limitation, and
all the features can be combined in other
constellations without departing from the spirit of the
invention. It is to be understood that both the
foregoing general description and the following
25 detailed description are exemplary and explanatory only
and are not restrictive of the invention as described.

Brief Description of the Drawings

FIG. 1 is a simplified block diagram of an integrated
30 development environment (IDE) for generating
user interface documents according to the
invention;

FIG. 2 illustrates an implementation of a selection
screen of a template wizard that can be used
35 with the IDE;

- FIG. 3 is one implementation of the main window of the IDE including an explorer/navigator view and an editor;
- FIG. 4 shows an implementation of the IDE main window further including a tree-based outline editor and a fragment repository;
- FIG. 5 illustrates the IDE main window when further including a device dependent frames layouting view;
- FIG. 6 shows the IDE main window further including a device class dependent page view;
- FIG. 7 shows the editor when combined with a Java filtering tool in the IDE main window;
- FIG. 8 illustrates details of a device class dependent complexity indicator as being part of the IDE; and
- FIG. 9 shows an implementation of a complexity display when integrated into the IDE main window.

20 Detailed Description of the Invention

- FIG. 1 is a simplified block diagram of an integrated development environment 999 (IDE) that can be used for the development of user interface documents. The IDE can be implemented as a computer program running on a computer system that includes one or more computing devices. The IDE 999 includes a general tool set 100 and a device class dependent tool set 120 that is integrated 990 with the general tool set 100. Examples of tools included in the general tool set are an editor 104 and an adaptation engine 105. Examples of tools that can be included in the device class dependent tool set 120 are a device class dependent page view 122, a fragment repository 123 supporting device dependent fragments, a device dependent frames layouting view 124

and/or a device class dependent complexity indicator
121. The tools are explained in detail in the later
description.

The following description describes by way of
5 example the development of a user interface document on
the basis of a Renderer Independent Markup Language
(RIML) document by using the IDE 999. However, the
present invention can be applied to any other document
type, such as documents written in Hypertext Markup
10 Language (HTML), Extensible Markup Language (XML),
Java, etc. RIML is an XML based markup language. The
user interface document can be stored in form of a file
or any other suitable data structure.

The IDE 999 can include a variety of further tools
15 that support the author of the document to reduce the
development time for document development and to detect
and correct errors within the document. The device
class dependent tools 120 provide special support for
the development of documents that are used in mobile
20 applications and, therefore, need to be compatible with
a variety of device classes. A device class includes a
plurality of restrictions that are typical for devices
(e.g., mobile devices) belonging to the device class.

The first step in document development is usually
25 to create a development space within the IDE 999, where
the document(s) can be assigned to. For example, when
using the Eclipse platform as IDE, an Eclipse project
can be created for working on RIML files.

A device independence plugin installation folder
30 can include several folders. Each of the folders stores
information for a specific tool of the IDE.

For example, a template folder can include RIML
templates available within the authoring environment to
be used by a template wizard. A quickhelp folder can
35 include XML description files used by a quickhelp tool

for providing help information related to a tag on which a cursor is positioned. A fragments folder can include RIML fragments available within the authoring environment, plus descriptions of the respective
5 fragments. A schemas folder can include XSD grammar required by a RIML validation and code completion tool to work.

The various tools of the IDE and how they interact to improve device independent authoring are described
10 in the following.

FIG. 2 illustrates an implementation of a selection screen of the template wizard 106 to support the document author to avoid starting from scratch when
15 creating 502 a new document 300. Predefined document templates RIML1 to RIML3 allow the author to reuse usability approved templates and modify them. For example, the templates can be RIML documents which contain a specific layout, and which may be tailored
20 for a specific application domain, user group or various device classes.

For example, after having selected RIML (illustrated by an ellipse) in a New-section of the selection screen to indicate that the author intends to
25 create a RIML document, the author can select 501 a template RIML3 in a From-Template section of the selection screen. The selected template RIML3 is then loaded into the editor 104, where it can be saved as the new document 300.

30 The selection function as described can be integrated in the IDE UI or displayed on a popup window prompting the author. By checking target user group(s), application domain and device classes for which the application is to be tailored, the selection screen can
35 be used to filter the available templates to display

only templates that comply with the selection criteria entered on the selection screen. In case no template matches the selection criteria, a default template can be selected. The default template includes at least
5 correct RIML element attributes and basic mandatory elements such as head and body. The template can then be stored in the corresponding development space of the IDE (e.g., Eclipse project) under a file name defined by the author. In the following it is assumed that the
10 development space is a RIML folder.

FIG. 3 is a possible implementation of the main window of the IDE 999. The IDE can further include an explorer/navigator view 107 for visualizing the files
15 that are assigned to the RIML folder. The explorer/navigator view 107 can be implemented similar to the Package Explorer in the Eclipse platform.

The explorer/navigator view 107 is interfaced to the editor 104 so that the document file 300 can be
20 directly loaded 503 into the editor 104 through a corresponding interaction of the author with the explorer/navigator view. For example, the author may double click on the file name or select a corresponding open function from a menu or toolbar of the
25 explorer/navigator view. The editor 104 supports typical functions, such as, text insertion, copy, paste, cut or syntax colouring. For example, the editor can 104 be implemented on the IDE main window or in separate window.

30 The author can select a perspective, e.g., by selecting a corresponding function from a menu or toolbar of the explorer/navigator view 107. A perspective is a set of tools associated with an extension (e.g., the riml extension of RIML document
35 files), and it defines a certain layout for these

tools. For example, In the Eclipse IDE, one perspective is associated with one plugin, wherein a plugin can be composed of several views.

The editor 104 can be further interfaced to a
 5 template XML description file including information about the different available document templates, such as for example, meta data about device classes supported by the templates.

Source code example 1 shows a template XML
 10 description file that includes a root element named RIMLTemplate, and which has RIMLTemplate elements, such as DeviceClass, ApplicationDomain, TargetedUserGroups and Keywords as children. Source code example 1 shows the content of the RIMLTemplate node for a template
 15 called V2test_pag_pagcol.riml.

Source code example 1:

```
<RIMLTemplate>
  <Path>./V2test_pag_pagcol.riml</Path>
  <Name>V2test_pag_pagcol.riml</Name>
  <DeviceClass>1</DeviceClass>
  <DeviceClass>2</DeviceClass>
  <DeviceClass>3</DeviceClass>
  <DeviceClass>4</DeviceClass>
  <DeviceClass>7</DeviceClass>
  <ApplicationDomain>Enterprise</ApplicationDomain>
  <TargetedUserGroups>Expert</TargetedUserGroups>
  <TargetedUserGroups>Professional</TargetedUserGroups>
  <Keywords>sample paginated column</Keywords>
</RIMLTemplate>
```

The source code 1 XML description file includes
 20 information about:

- The path and filename relatively to the IDE root folder,

- the name of the template (here name can mean label, because the actual file name is included in the path element),
- the different device classes handled,
- 5 - the application domain concerned, and
- the targeted User Groups targeted by this template.

The IDE can further include a link to a usability guideline tool that allows the author to access
10 usability guidelines. For example, usability guidelines, such as the Consensus usability guidelines, are available through the Internet or locally. The usability guideline tool can be interfaced to the editor 104 to be used as an authoring help. For
15 example, a corresponding hyperlink 108 in the IDE can guide the author to the usability guideline tool.

The IDE can further include a context sensitive help tool to provide to the author a quick info about a specific tag used in the document 300 when loaded into
20 the editor 104. The information can include a short description of the tag's function and corresponding hyperlinks to the RIML usability guideline. Hyperlinks proposed by the context sensitive help tool are the ones considered as relevant with respect to the edited
25 RIML document from a usability perspective. For example, the context sensitive help tool can be called through a specific function key or a corresponding IDE menu entry or other control element. When evoking the context sensitive help tool, for example, a popup
30 window can show the tag's description and the links to the usability guideline.

The IDE can further include a quickhelp XML description file. The quickhelp file can include the
35 relevant content for the help on tags. Source code

example 2 shows a quick help file that includes a root element called tags having child elements. In the example, the name of a child element names is the name of the tag concerned.

5

source code example 2:

```
<?xml version="1.0" encoding="UTF-8"?>
<tags xmlns="http://not-real"
      xmlns:rimg="no-need-to-edit-this1"
      xmlns:smil="no-need-to-edit-this2"
      xmlns:html="no-need-to-edit-this3"
      xmlns:eccdc="no-need-to-edit-this4"
>
```

```
<rimg:layout>
```

```
  <description>
```

All RIML layout definition is enclosed by the layout element. The layout element has one child, which can be either be a frame element or a RIML layout container element.

```
  </description>
```

```
  <link>
```

```
    <label>Display - Text</label>
```

```
    <URL>http://apg.
```

```
vienna.org/APGDetail.php?id=126</URL>
```

```
  </link>
```

```
  <link>
```

```
    <label>Page Types - Relationships</label>
```

```
    <URL>http://apg.
```

```
vienna.org/APGDetail.php?id=194</URL>
```

```
  </link>
```

```
  <link>
```

```
    <label>Spacing in dialogs</label>
```

```
    <URL>http://apg.
```

```
vienna.org/APGDetail.php?id=308</URL>
```

```

    </link>
    <link>
      <label>Layout conventions</label>
      <URL>http://apg.
vienna.org/APGDetail.php?id=311</URL>
    </link>
    <link>
      <label>Relationship of elements</label>
      <URL>http://apg.
vienna.org/APGDetail.php?id=315</URL>
    </link>
  </riml:layout>

```

The IDE can further include a code completion tool
 102. The code completion tool 102 proposes different
 possibilities for auto-insertion of text (e.g.,
 5 </riml:layout>, <riml:column>, <riml:row>, <riml:grid>)
 in the editor 104 dependent on the context at a
 specific position (e.g., <riml:layout>) within the
 document 300. For example, the specific position can be
 defined in the editor 104 through the cursor position.
 10 Such a code completion tool 102 is described in the
 European patent application 02000106.1 published under
 the publication number EP1326175. For example, the
 author can invoke 504 the code completion tool 102 from
 within the editor 104 by using a specific control key
 15 combination, such as CTRL+SPACEBAR. A popup window 102
 can then display the different possibilities for
 completion. These possibilities can rely on schemas
 defined in the html root element of the document 300,
 to propose only valid completion options. The author
 20 selects one of the proposed completion texts (e.g., by
 double-clicking) to trigger the insertion of the text.
 The code completion tool 102 can also be applied to
 attributes within an element.

FIG. 4 shows an implementation of the IDE main window when the IDE 999 further includes a tree-based outline editor 109 for generating an outline view 209 of the edited document 300, such as an XML tree view 209 of the RIML document 300. The tree-based outline editor 109 further can make editing proposals for the document using popup windows similar to the code completion tool. The tree-based outline editor 109 is interfaced with the editor 104, in the sense that when selecting an element 209' in the outline view 209, the editor 104 highlights 504 the corresponding text portion 309 of the document 300.

The author can see a list of elements that can be added as children to a current element (e.g., the head element) and further a list of attributes that can be added to the current element by selecting the current element of the outline view 209. A popup window can propose similar completion as the code-completion tool. When the author selects a completion it will be added to the tree of the outline view 209 and other views as, for example, the editor 104 view, will be updated accordingly.

The IDE 999 can further include a fragment repository 123 for supporting the reuse of fragments of RIML documents. The fragment repository 123 allows the author to load and save identified RIML fragments. When the IDE 999 is started, the fragment repository 123 can be visualized as a tree structure 223. The fragment repository includes fragments already saved in the past. The author creates the structure of the fragment repository when deciding where to save the different fragments. For example, the author may choose the hierarchy of the RIML document, which may be decomposed into the different tasks. It may be decomposed into

different versions of a search result based on the various device classes DC1, DC2.

The author can save the whole head part of a RIML document as a root node that contains all layout
5 information. Then, layout parts that are specific to corresponding device classes DC1, DC2 can be saved as child fragments. Thus, if a further author wants to have a layout that is specific to a single device class, he/she can directly use the child fragment that
10 is specific to the desired device class DC1, DC2 layout instead of using the root node containing also information that is not necessary for the desired device class.

The fragment repository has at least the functions
15 "save fragment" and "load fragment".

To save a fragment, the author highlights the desired fragment in the editor (e.g., through a mouse or a keyboard). The fragment can be any part of the document text (e.g., text portion 309). For example it
20 can be but does not have to be a valid XML fragment. Then, the author selects the node the fragment repository view where the fragment is to be appended to. The author can enter a name and a description/comment of the fragment through
25 conventional data entry means. The fragment will then be appended next to the selected node in the repository tree under the entered name.

The author can load a fragment from the fragment repository into the current document within the editor.
30 To do so, the author places the cursor in the editor where the fragment is to be inserted, then selects the corresponding fragment the fragment repository tree and triggers insertion. The fragment will then be inserted
505 at the correct place.

Further, for a fragment an XML file containing metadata of the fragment can be generated. Source code example 3 shows an example of such a fragment XML file.

5 Source code example 3:

```
<!DOCTYPE fragment SYSTEM "fragment.dtd">
<?xml version="1.0" encoding="UTF-8" ?>
<fragment:fragment>
  <fragment:name>Device-Class1</fragment:name>
  <fragment:parent>SearchResults</fragment:parent>
  <fragment:parent-
file>SearchResults.xml</fragment:parent-file>
  <fragment:comment></fragment:comment>
  <fragment:content>
<section          eccdc:deviceClassOneOf="DeviceClass1"
riml:frameId="table-content-frame">
  <table>
    <tr>
      <td class="BgBlue">
        Michael Sting
      </td>
    </tr>
    <tr>
      <td class="BgBlue">
        +49-7099-99-9999
      </td>
    </tr>
  </table>
</section>
</fragment:content>
</fragment:fragment>
```

Examples of metadata that can be included in fragment XML files are: the fragment name, the fragment parent (used by the tool for the structure of the

view), the fragment parent-file, fragment comments (entered by the author when saving a fragment), and the content that contains the verbatim of the saved fragment.

5 The IDE can further include a validation tool for evaluating the validity of the document 300. The XML standard allows one to specify XML schemas being in use in the current document 300 from the root element of the current document 300. For example, this root
10 element can be an HTML element. Locating XML schema files can be done by using the schemaLocation attribute from the XML schema namespace. For example, the RIML document 300 can be validated 506 against RIML schemas given in an HTML element. Thus, the author can quickly
15 identify errors and correct the errors on the basis of appropriate error messages 111-1 generated by the validation tool.

 If the document is valid, for example, a popup window can convey the message to the author. If the
20 document is invalid, a tasks view 111 of the IDE can be used to show the different errors. The task view 111 can be displayed simultaneously with the editor 104 and can be interfaced to the editor. When selecting an error 111-1 in the task view the editor highlights the
25 corresponding position 309 within the document 300 that has caused the error.

 Validation can be based on schema files given in the HTML element. The required RIML schemas can be found in a corresponding folder. The validation tool
30 can find the schemas using relative paths (e.g., relative to the RIML folder as a basis).

FIG. 5 illustrates the IDE when further including a device dependent frames layouting view 124 to provide
35 to the author an overview of what the presentation

structure will look like for the various device classes. Document pagination and transformation may be disregarded by the frames layouting view. Similar to frames in HTML, the author has a view of where various portions of the document will be presented when the document is displayed (e.g., how rows and columns of the document will be distributed). Differences for the various device classes can result from, for example, using layout components that are tailored to a specific device class and cannot be used for other device classes.

For example, for device class DC1 (grey shaded tab) the frames layouting view 124 shows a layout that is composed of one column 124-0, which includes two frames 124-1, 124-2. Each frame has one section assigned to it. The highlighted section 312-1 in the editor 104 corresponds to the selected element (illustrated by "first section" in italics) in the frames layouting view 124. This is achieved by interfacing the editor 104 with the frames layouting view 124 accordingly. For example, when the author selects a section within first frame 124-1 the editor highlights the corresponding text section 312-1. The author can also select a section of the editor text 312-1 and the frames layouting view 124 will highlight the corresponding frame 124-1.

FIG. 6 shows the IDE 999 further including the device class dependent page view 122 to provide information to the author about how the document 300 will be paginated by the adaptation engine 105 for various device classes DC1, DC2. Such a tool is described in the European patent application 03024356.2.

For example, the author can start the adaptation engine 105 from a corresponding menu of the IDE main

window. Adaptation engines, such as the consensus adaptation engine, are known in the art. An adaptation engine is used to generate device class specific representations 301, 302 (cf. FIG. 8) of the document 300. In general, the document 300 includes a hierarchy of layout components. This hierarchy can be adapted to various device classes DC1, DC2 in different ways. This may result in different representations 301, 302 of the document 300 for various device classes DC1, DC2. For example, a specific layout component may be suitable for a first device class DC1 but not a second one DC2. This specific layout component can be suppressed by the adaptation engine 103 for the second device class DC2 and, therefore, does not become part of the document's representation 302 for the second device class DC2. An appropriate preview tool may allow the author to choose a specific emulator for a preview. The output of the adaptation engine 103 is generated for the chosen emulator. The author can browse through generated sub-pages in the preview of the document.

For generating the device-class dependent view 122 the adaptation engine may stop after the pagination step. The output of the adaptation engine corresponds to paginated pages (e.g., Page 1, Page 2) of the document 300. As a result of this pre-pagination run of the adaptation engine, the author can see where different parts of the document 300 will be split, dependent on the device class DC1, DC2.

The example of FIG. 6 shows a preview of how the currently edited RIML document 300 will be paginated for a first device class DC1 (grey shaded tab). For example, the author can access the pagination previews of the other device classes DC2 by selecting the corresponding tab. The adaptation engine output includes the content of each generated sub-page. For

example, the RIML document has at least two sub pages (Page 1 and Page 2, further sub-pages can be accessed by scrolling). The author can expand the nodes of a sub-page so as to see their detailed content.

5 The device class dependent page view 122 integrates part of the adaptation engine 105 (up to the pagination step) with the editor 104. For example, a RIML document loaded in the editor 104 is provided to the adaptation engine 105 and a set of generated sub-
10 pages Page 1, Page 2 is presented to the author. Thus, the author is enabled through the device dependent page view 122 to elaborate during the development of the document 300 how specific changes to the document 300 will affect the appearance of the corresponding user
15 interface on various device classes. The author can correct the document immediately when undesired pagination results make the user interface unusable on a specific device. If this would be done once the document development is finished, a correction would
20 most probably imply major modifications to readjust the document for compliance with all device classes.

FIG. 7 shows the editor 104 editing the document 300 when including Java code besides XML based code. To
25 handle such a document, the IDE 999 can further include a Java filtering tool 108 to hide Java code when using XML views, and to switch back to Java code when editing Java. For example, inserting Java code into the RIML document poses problems for XML view tool based editor
30 because Java code does not respect the XML rules and, therefore, breaks the XML model that needs to be respected for the XML tools to work normally.

The author can activate a Java code view by using the Java filtering tool 108 that allows editing Java
35 code. For example, the Java filtering tool can have a

corresponding graphical representation in the IDE main window (e.g., a button or menu entry). For example, Java code can be recognised by start characters "<%" and end characters "%>". The Java filtering tool can
5 also handle JSP tag prefixes.

The author can switch back to the XML view to work with XML tools. The Java code may be hidden in the editor 104 when the Java filter is active. Java code that is present prior to the HTML root element of the
10 document can be classified as a comment, as an XML document doesn't allow any content prior to the root element.

The Java filtering tool 108 has no impact on the content of the document 300 when saved. The saved
15 document 300 includes the correct Java code.

The IDE 999 can further include a device class dependent complexity indicator 121 as shown in FIG. 8. The complexity indicator 121 has a complexity
20 evaluation library 121-1 for evaluating the complexity of layout components used in the document 300 or its device specific representations 301, 302 and further has a complexity display 121-2 for visualizing the result of the complexity evaluation. High complexity of
25 layout components usually has a negative impact on the usability of the user interface that includes the layout components.

The adaptation engine 105 receives 410 the document 300 created 405 with the editor 104 as input
30 and generates 420 device specific representations of the document considering specific constraints of a device class (e.g., limited display area, memory constraints). In the example, a first representation 301 is generated for device class DC1 and a second
35 representation 302 is generated for device class DC2.

Each representation can have a layout component hierarchy 321, 322 that is different from the one 320 of the original document 300. In the example, the adaptation engine removed layout component 4 when
5 generating the first representation 301 and layout component 3, when generating the second representation 302.

The complexity indicator 121 receives 430 information about layout components 1 to 9 and how
10 these layout components are built into the layout component hierarchies 321, 322 of the document representations 301, 302. A layout component can include multiple basic layout elements (e.g., input fields) and group these layout elements in such a way
15 that a specific function of the document (e.g., performing a search) is bundled in the layout component. Sometimes layout components are also referred to as controls.

The complexity indicator 121 determines the layout
20 components and the layout component hierarchy 321, 322 of the respective representation 301, 302.

Further, the complexity indicator 121 calculates a complexity value for each layout component in its respective representation 301, 302. This can be
25 achieved by using a complexity evaluation library 121-1 of the complexity indicator 121. It is sufficient that the complexity indicator can access the library 121-1, which may also be stored elsewhere within the IDE 999. The library 121-1 includes a set of complexity
30 evaluation functions EF5-DC1, EF5-DC2, EF6-DC1, EF6-DC2, etc. Preferably, such an evaluation function exists for each layout component with respect to the various device classes DC1, DC2. This can also be
35 achieved by associating the evaluation functions with specific layout component types, where each layout

component is an instance of the respective layout component type. The association of the evaluation functions with the respective layout components is illustrated by a solid line between a layout component
5 and its respective evaluation functions.

The complexity indicator 121 applies the evaluation functions for the various device classes to the layout components of the respective representations 301, 302. Each applied evaluation function returns a
10 complexity value for the respective layout component. For example, return values may range from 1 to 10, where 1 indicates a low complexity of the component and 10 indicates a high complexity of the component. Any other appropriate measure can be used instead.
15 Evaluation criteria used by the evaluation functions can, for example, refer to the number of items that can be displayed simultaneously in the display area of a specific device class or to the number of broken links of the layout component, dependent of the component
20 layout type.

Then, the complexity indicator aggregates the returned complexity values for the various representations 301, 302 according to the respective layout component hierarchies 321, 322. Aggregate
25 complexity values can be determined for the various levels in the layout component hierarchy 321, 322.

For example, layout component 2 represents a menu that includes two sub-menus (layout components 5 and 6). When applying the evaluation functions EF5-DC1 and
30 EF6-DC1 to the sub-menus 5, 6 for the first device class DC1 (first representation 301), the aggregation algorithm may propagate the maximum complexity value of both sub-menus to the menu 2, assuming that the complexity value of the menu 2 cannot be less than the
35 highest complexity value of its sub-menus. The same

applies to the second device class DC2 when applying the evaluation functions EF5-DC2 and EF6-DC2. However, even when both sub-menus 5, 6 have a low complexity value, the overall complexity of the menu 2 can still
5 be high. Therefore, in addition to propagating complexity values of child nodes in the layout component hierarchy to the parent node, an evaluation function can be applied directly to the parent node. For example, the sub-menus can have complexity values
10 of 3 and 5. However, the usage of both sub-menus in the menu 2 can lead to a complexity value 7 for the menu 2 (parent node) itself. Thus, the propagated complexity value of the sub-menus $\max(3;5)=5$ would be overruled by the complexity indicator with the higher complexity
15 value 7 that is directly calculated for the parent node (menu 2).

The complexity indicator can then visualize 440 the various complexity values for the author in a complexity display 121-2. For example, the aggregate
20 complexity value for the respective component hierarchy 321, 322 can be displayed for each device class DC1, DC2.

In an alternative implementation, the complexity indicator processes complexity evaluation hierarchies
25 instead of layout component hierarchies. For this purpose, the IDE 999 can include a transformer that can transform the layout component hierarchy of each representation into a markup language independent complexity evaluation hierarchy. The complexity
30 evaluation hierarchy includes the same information as the respective layout component hierarchy but is described in a generic language to which the evaluation functions can be applied. Using a language independent complexity evaluation hierarchy enables the complexity
35 indicator to use a single set of evaluation functions

being associated with components of the complexity evaluation hierarchy in the complexity library 121-1. This association becomes independent from the markup language being used for the original document 300 or its device specific representations 301, 302. The complexity hierarchy layer is an abstraction layer between the representations 301, 302 and the complexity indicator that helps to avoid that an evaluation function for a layout component needs to be redundantly provided for various markup languages, such as RIML, XHTML, HTML, etc.

FIG. 9 shows an alternative implementation of the complexity display 121-2 when integrated into the IDE main window.

The complexity values for each device class DC1, DC2 are visualized as graphical bars. In the example, complexity values increase from the left value 1 to the right value 10. Threshold values T1, T2 are used to change the appearance of the bar dependent on the visualized threshold value. For example, complexity values below T1 have a first grid structure or a first colour. Complexity values between T1 and T2 have a second grid structure or a second colour and complexity values above T2 have a third grid structure or a third colour. Other presentations, such as traffic lights changing the colour when exceeding a threshold value, are also possible.

The complexity display 121-2 further can have a drill down section, where complexity values can be shown on different hierarchy levels down to the complexity of an isolated layout component for a selected device class. In the example, the drill down is made for the second device class DC2. Apparently, the high complexity value originates from the layout

component 2, whereas the complexity value of layout components 4 and 7 is relatively low. A further drill down can be made for each of the layout components to determine the origin of high complexity values.

5 The tree-based outline editor 109 can be interfaced to the complexity indicator 121 so that, when it is displayed simultaneously, a layout component that is selected in the complexity display 121-2 is highlighted in the component hierarchy of the tree-based outline editor 109. In this example, the tree-based outline editor 109 displays the layout component hierarchy of the respective representation 302 that corresponds to the device class DC2 that is currently drilled down in the complexity indicator.

15

Embodiments of the invention can be implemented in digital electronic circuitry, or in computer hardware, firmware, software, or in combinations of them. The invention can be implemented as a computer program product, i.e., a computer program tangibly embodied in an information carrier, e.g., in a machine-readable storage device or in a propagated signal, for execution by, or to control the operation of, data processing apparatus, e.g., a programmable processor, a computer, 25 or multiple computers. An computer program for device dependent authoring of user interface documents can be written in any form of programming language, including compiled or interpreted languages, and it can be deployed in any form, including as a stand-alone program or as a module, component, subroutine, or other unit suitable for use in a computing environment. A computer program can be deployed to be executed on one computer or on multiple computers at one site or distributed across multiple sites and interconnected by 35 a communication network.

Method steps of the invention can be performed by one or more programmable processors executing a computer program to perform functions of the invention by operating on input data and generating output.

5 Method steps can also be performed by, and apparatus of the invention can be implemented as, special purpose logic circuitry, e.g., an FPGA (field programmable gate array) or an ASIC (application-specific integrated circuit).

10 Processors suitable for the execution of a computer program include, by way of example, both general and special purpose microprocessors, and any one or more processors of any kind of digital computer. Generally, a processor will receive instructions and
15 data from a read-only memory or a random access memory or both. The essential elements of a computer are at least one processor for executing instructions and one or more memory devices for storing instructions and data. Generally, a computer will also include, or be
20 operatively coupled to receive data from or transfer data to, or both, one or more mass storage devices for storing data, e.g., magnetic, magneto-optical disks, or optical disks. Information carriers suitable for embodying computer program instructions and data
25 include all forms of non-volatile memory, including by way of example semiconductor memory devices, e.g., EPROM, EEPROM, and flash memory devices; magnetic disks, e.g., internal hard disks or removable disks; magneto-optical disks; and CD-ROM and DVD-ROM disks.
30 The processor and the memory can be supplemented by, or incorporated in special purpose logic circuitry.

To provide for interaction with a user, the invention can be implemented on a computer having a display device, e.g., a cathode ray tube (CRT) or
35 liquid crystal display (LCD) monitor, for displaying information to the user and a keyboard and a pointing device, e.g., a mouse or a trackball, by which the user

can provide input to the computer. Other kinds of devices can be used to provide for interaction with a user as well; for example, feedback provided to the user can be any form of sensory feedback, e.g., visual
5 feedback, auditory feedback, or tactile feedback; and input from the user can be received in any form, including acoustic, speech, or tactile input.

The invention can be implemented in a computing system that includes a back-end component, e.g., as a
10 data server, or that includes a middleware component, e.g., an application server, or that includes a front-end component, e.g., a client computer having a graphical user interface or a Web browser through which a user can interact with an implementation of the
15 invention, or any combination of such back-end, middleware, or front-end components. The components of the system can be interconnected by any form or medium of digital data communication, e.g., a communication network. Examples of communication networks include a
20 local area network (LAN) and a wide area network (WAN), e.g., the Internet.

The computing system can include clients and servers. A client and server are generally remote from each other and typically interact through a
25 communication network. The relationship of client and server arises by virtue of computer programs running on the respective computers and having a client-server relationship to each other.

Claims

1. An integrated development environment (999) for developing user interface documents, comprising:
an editor (104) for editing a user interface
5 document (300);
an adaptation engine (105) for generating device class specific representations (301, 302) of the user interface document (300), each device class specific representation (301, 302)
10 referring to a respective device class (DC1, DC2);
characterized in that
the integrated development environment (999)
15 further comprising a device class dependent complexity indicator (121) for determining complexity values of layout components (1 to 9) of the device class specific representations (301, 302) by using complexity evaluation functions (EF5-DC1, EF5-DC2, EF6-DC1, EF6-DC2), associated with the layout
20 components (5, 6) and for aggregating the complexity values by device class according to a corresponding layout component hierarchy (321, 322) of the respective device class specific representation (301, 302).
25
2. The integrated development environment of claim 1, further comprising:
a template wizard (106) being interfaced to the
30 editor (104) for creating (502) a new user interface document (300) by loading a predefined document template from the template wizard (106) into the editor (104).

3. The integrated development environment of claim 3, where the editor (104) is interfaced to a template XML description file including information about different available document templates, the information comprising meta data about device classes supported by the templates.
4. The integrated development environment of any one of the previous claims, further comprising a tree-based outline editor (109) for generating an outline view (209) of the user interface document (300) when loaded into the editor (104), the tree-based outline editor (109) being interfaced to the editor (104) so that selection of an element (209') in the outline view 209 causes the editor (104) to highlight (504) a corresponding text portion (309) of the user interface document (300).
5. The integrated development environment of any one of the previous claims, further comprising: a code completion tool (102) for proposing possibilities for auto-insertion of text in the editor (104) dependent on document context at a specific position within the user interface document (300).
6. The integrated development environment of any one of the previous claims, further comprising: a fragment repository (123) for saving from or loading to the user interface document (300) a document fragment having a layout that is specific to a specific device class.

7. The integrated development environment of any one of the previous claims, further comprising:
a Java filtering tool (108) for hiding Java code in the editor (104) when using an XML view for editing the user interface document (300), and for editing Java code when activating a Java code view for editing the user interface document (300), wherein the editor (104) is configured to save the user interface document (300) including Java code independent from the current editing view.
8. The integrated development environment of any one of the previous claims, further comprising:
a device class dependent frames layouting view (124) being interfaced to the editor (104) for providing an overview of presentation structures of the user interface document (300) for various device classes.
9. The integrated development environment of any one of the previous claims, further comprising:
a device class dependent page view (122) for using the adaptation engine (105) to execute a pre-pagination run with respect to the device class specific representations (301, 302) and for visualizing the result of the pre-pagination run for the respective device classes (DC1, DC2).

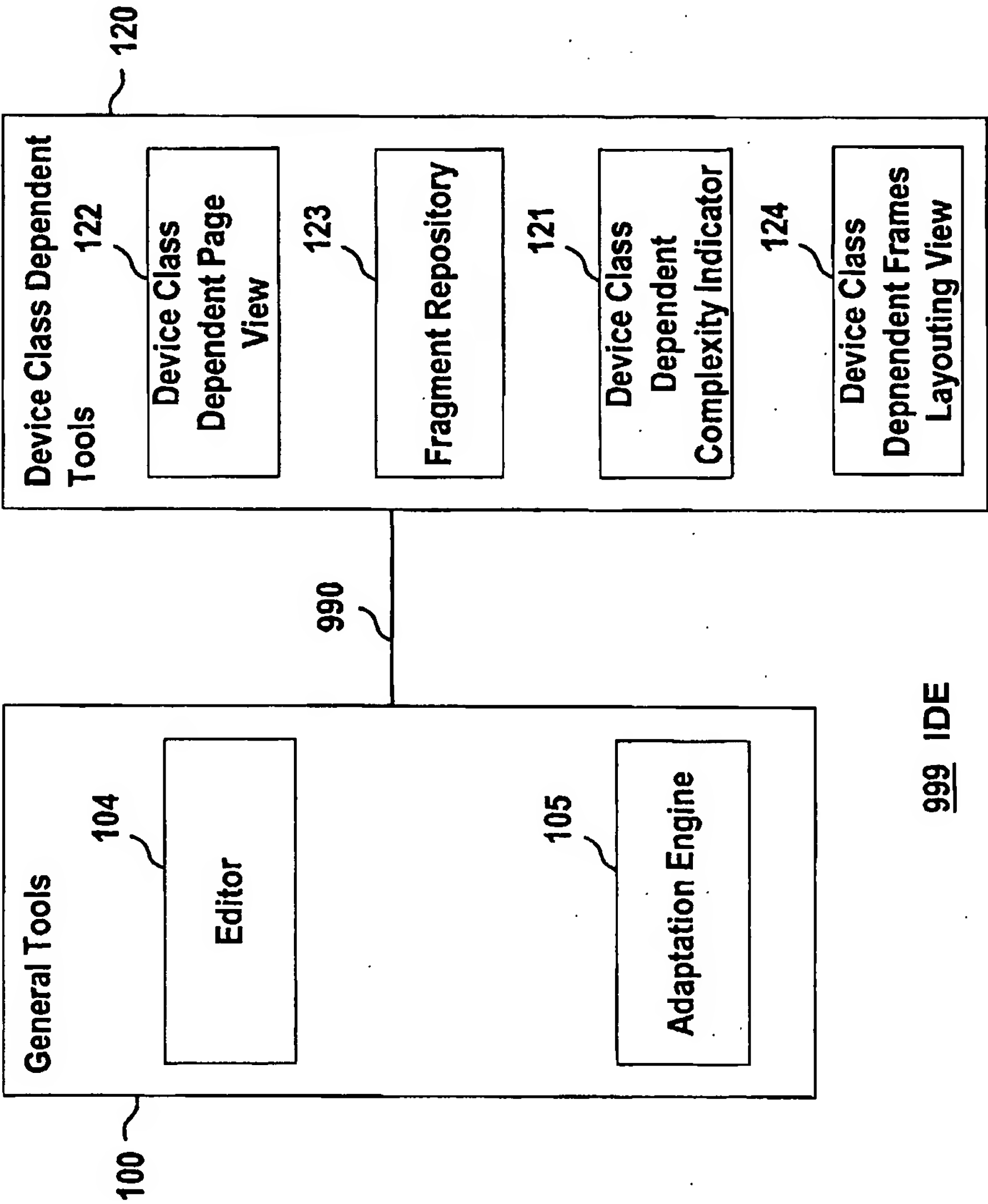
10. The integrated development environment (999) of any one of the claims from 1 to 8; wherein the device class dependent complexity indicator (121) is replaced by
- 5 a device class dependent page view (122) for using the adaptation engine (105) to execute a pre-pagination run with respect to the device class specific representations (301, 302) and for visualizing the result of the pre-
- 10 pagination run for the respective device classes (DC1, DC2).
11. The integrated development environment (999) of any one of the claims from 1 to 7; wherein the device class dependent complexity indicator (121) is replaced by
- 15 a device class dependent frames layouting view (124) being interfaced to the editor (104) for providing an overview of presentation structures of the user interface document
- 20 (300) for various device classes.
12. The integrated development environment claim 11, further comprising:
- 25 a device class dependent page view (122) for using the adaptation engine (105) to execute a pre-pagination run with respect to the device class specific representations (301, 302) and for visualizing the result of the pre-
- 30 pagination run for the respective device classes (DC1, DC2).

13. A computer implemented method for generating user interface documents, comprising the steps of:
loading a user interface document (300) into an editor (104);
5 generating device class specific representations (301, 302) of the user interface document (300) by using an adaptation engine (105), wherein each device class specific representation (301, 302) refers to a
10 respective device class (DC1, DC2);
characterized in that the method comprises the further steps performed by a complexity indicator (121):
determining complexity values of layout components
15 (1 to 9) of the device class specific representations (301, 302) by using complexity evaluation functions (EF5-DC1, EF5-DC2, EF6-DC1, EF6-DC2), associated with the layout components (5, 6); and
20 aggregating the complexity values by device class according to a corresponding layout component hierarchy (321, 322) of the respective device class specific representation (301, 302).
- 25 14. The method of claim 13, comprising the further step:
providing an overview of presentation structures of the user interface document (300) for
various device classes.

30

15. The method of claim 13 or 14, comprising the further steps:
executing a pre-pagination run with respect to the device class specific representations (301, 302) by using the adaptation engine (105); and visualizing the result of the pre-pagination run for the respective device classes (DC1, DC2) in a device class dependent page view (122).
16. The method of claim 13 or 14, wherein the determining and aggregating steps are replaced by the steps:
executing a pre-pagination run with respect to the device class specific representations (301, 302) by using the adaptation engine (105); and visualizing the result of the pre-pagination run for the respective device classes (DC1, DC2) in a device class dependent page view (122).
17. A computer system comprising at least one computing device having data storage means and at least one processor to run an integrated development environment (999) according to any one of the claims 1 to 12.

25



999 IDE

FIG. 1

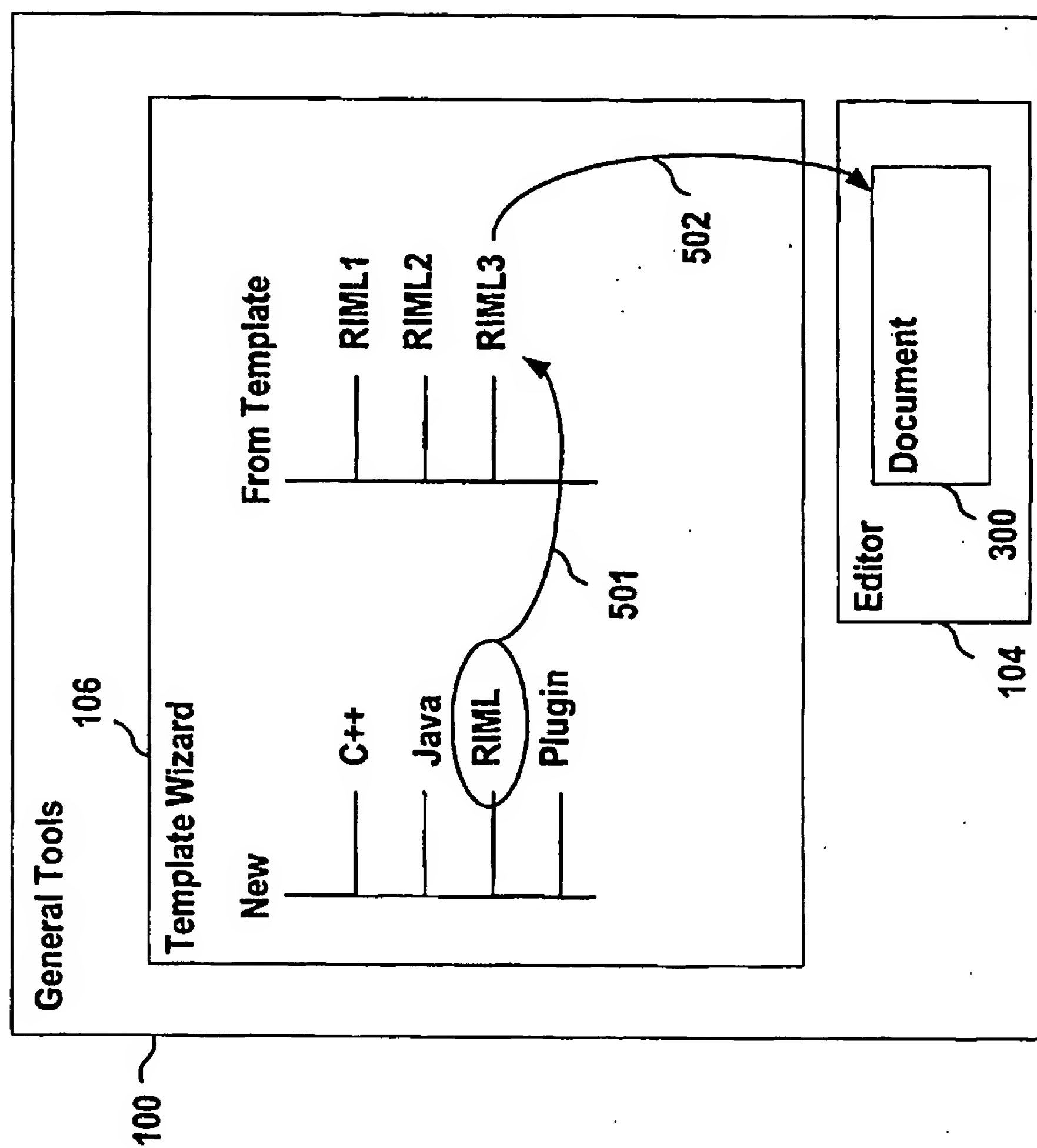


FIG. 2

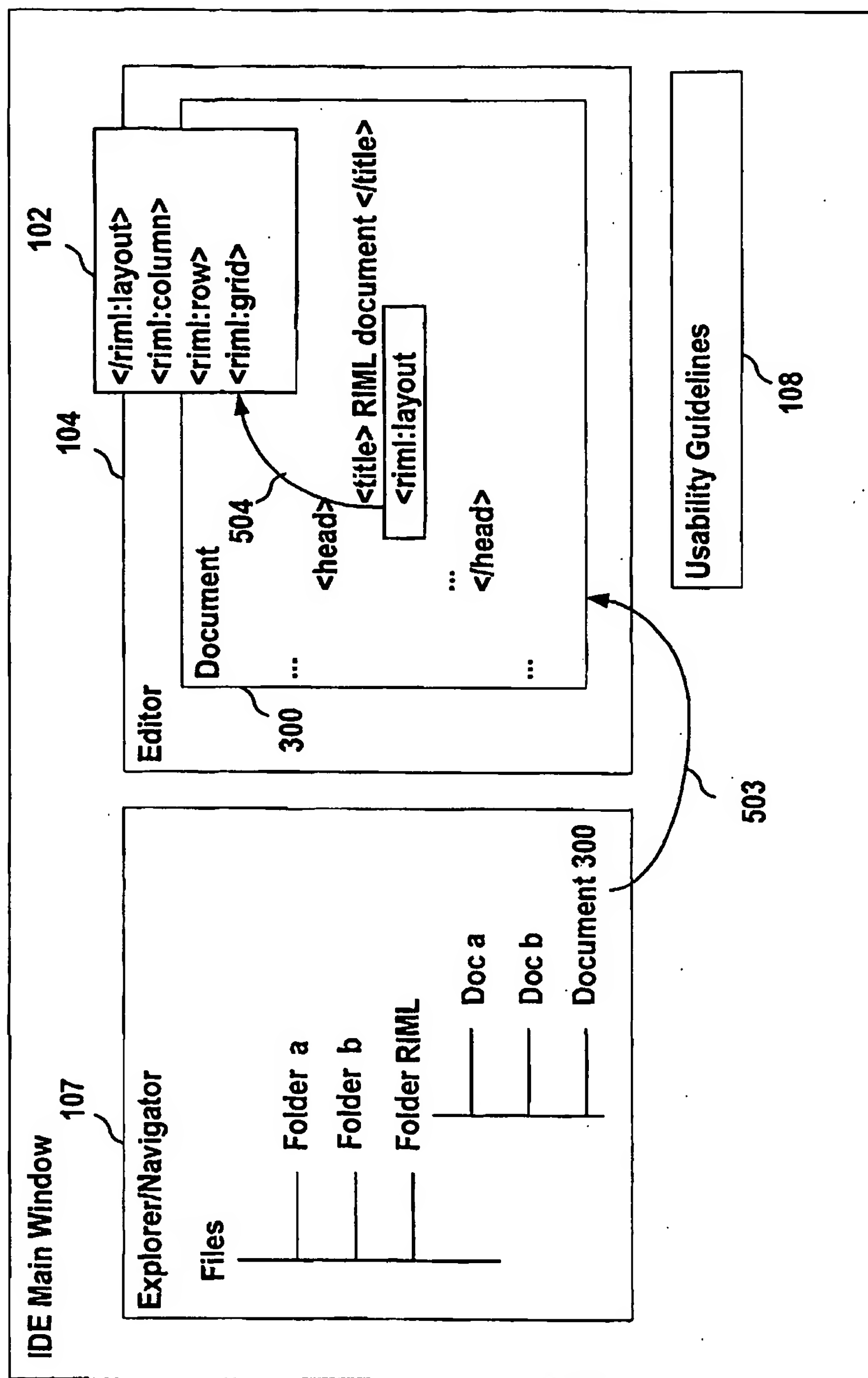


FIG. 3 999

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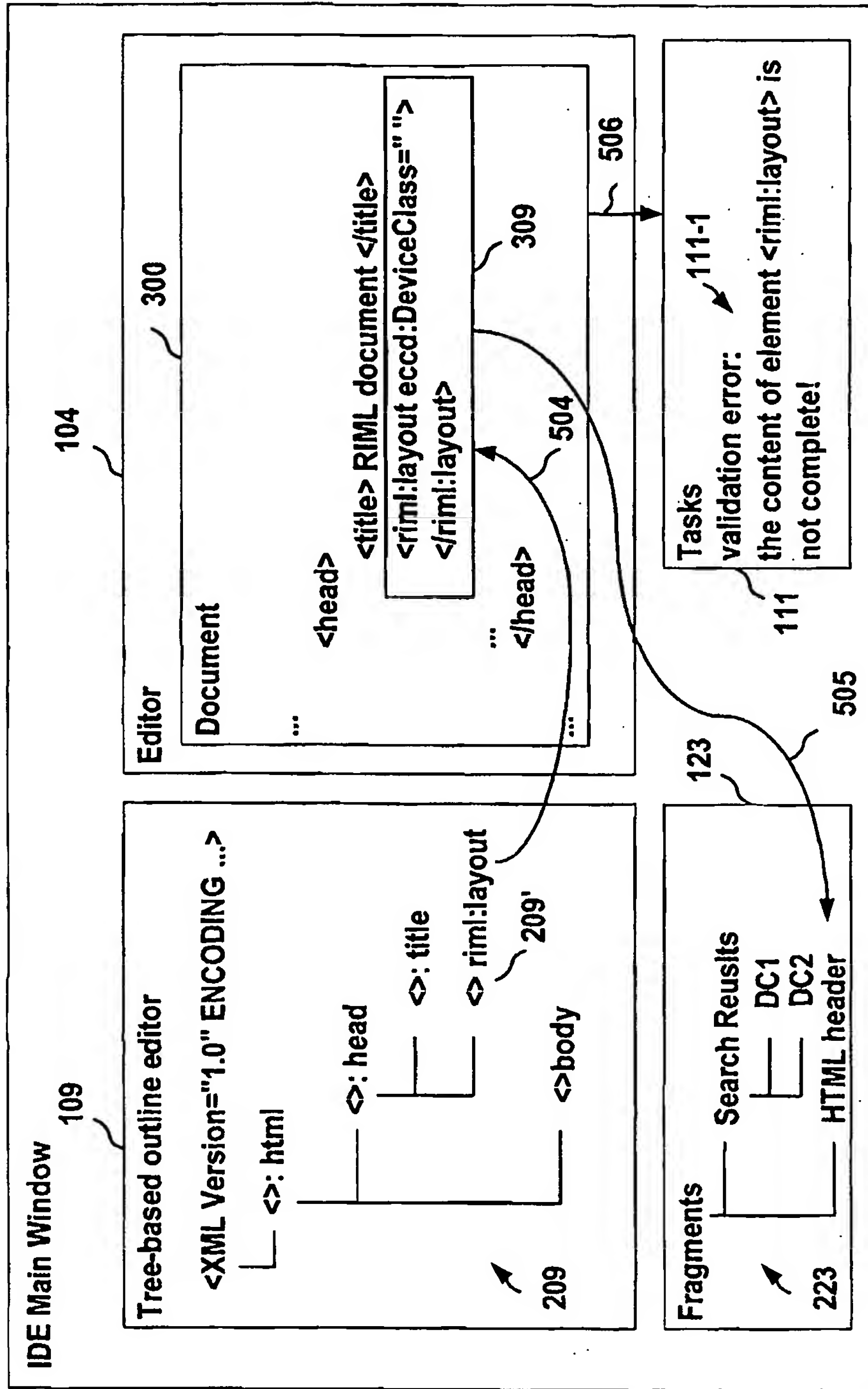


FIG. 4 999

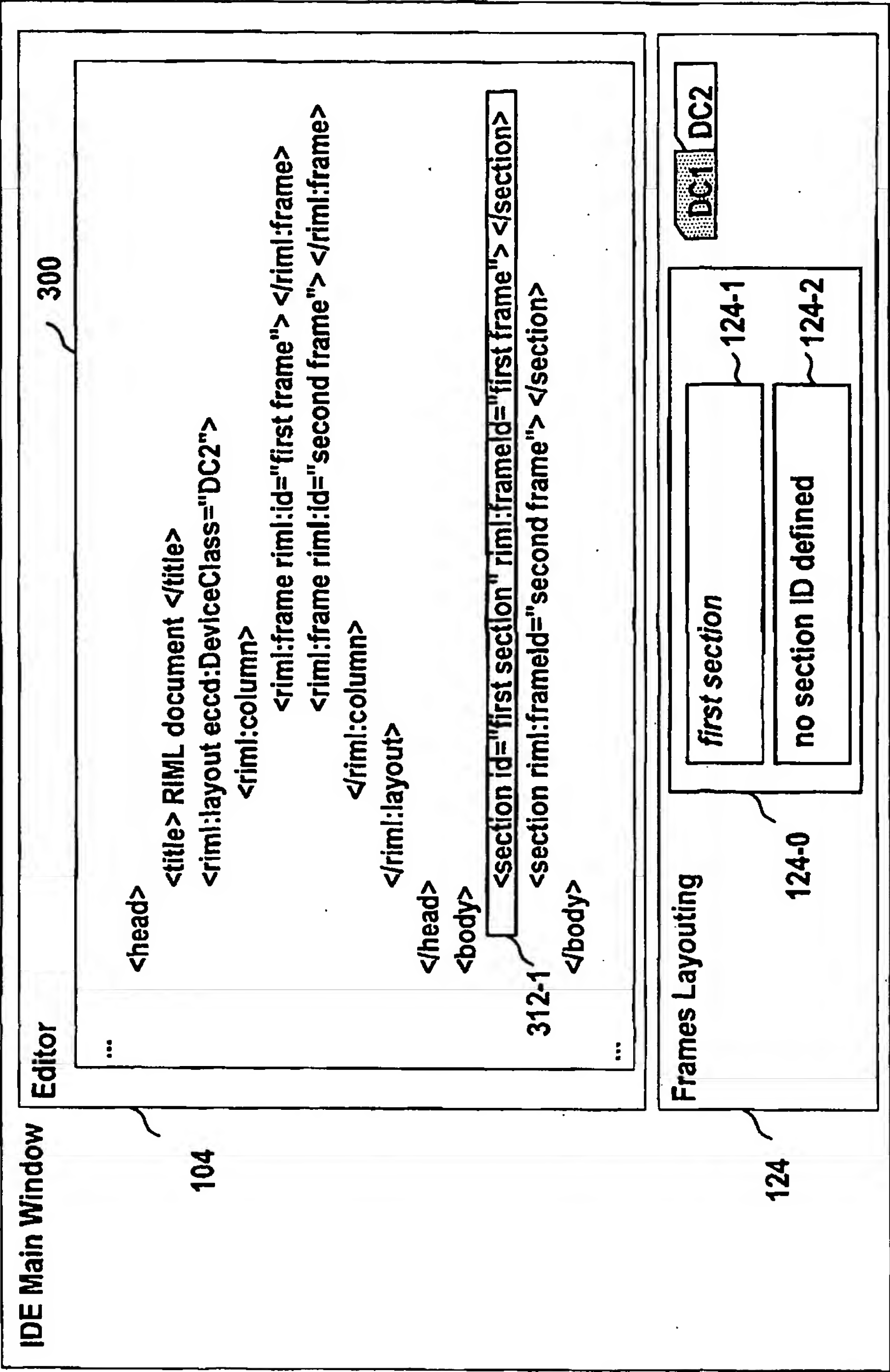


FIG. 5 999

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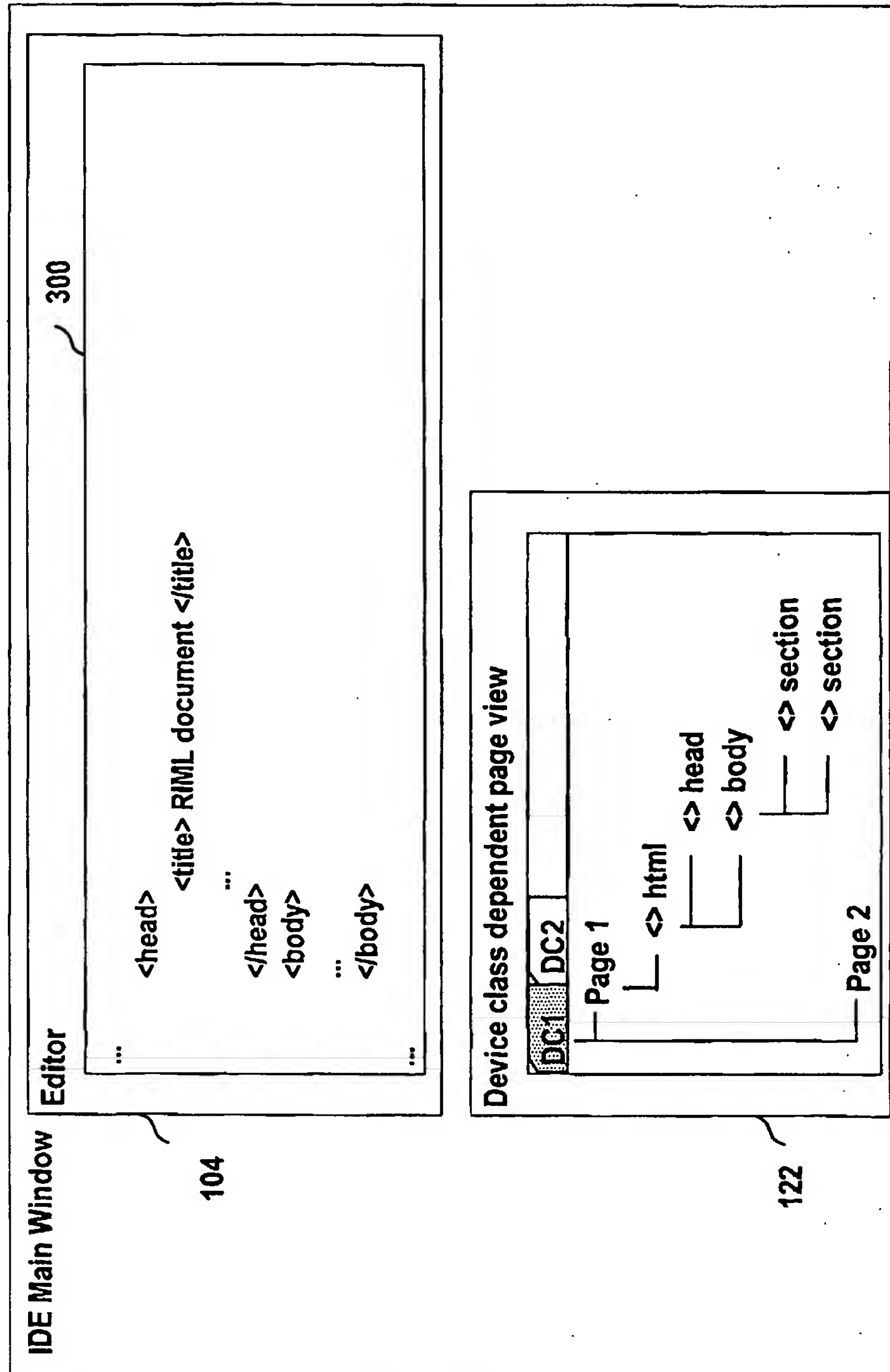


FIG. 6 999

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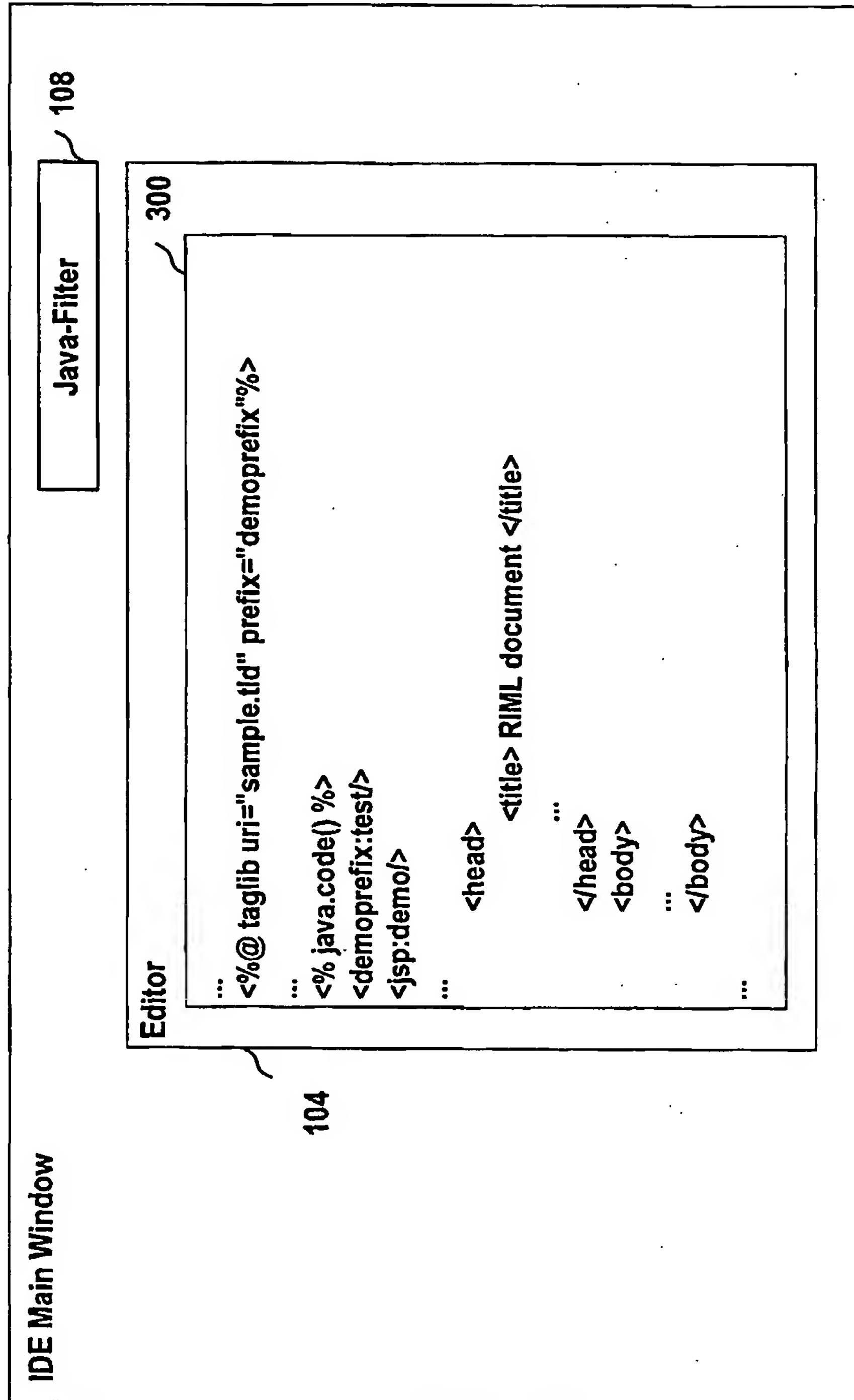
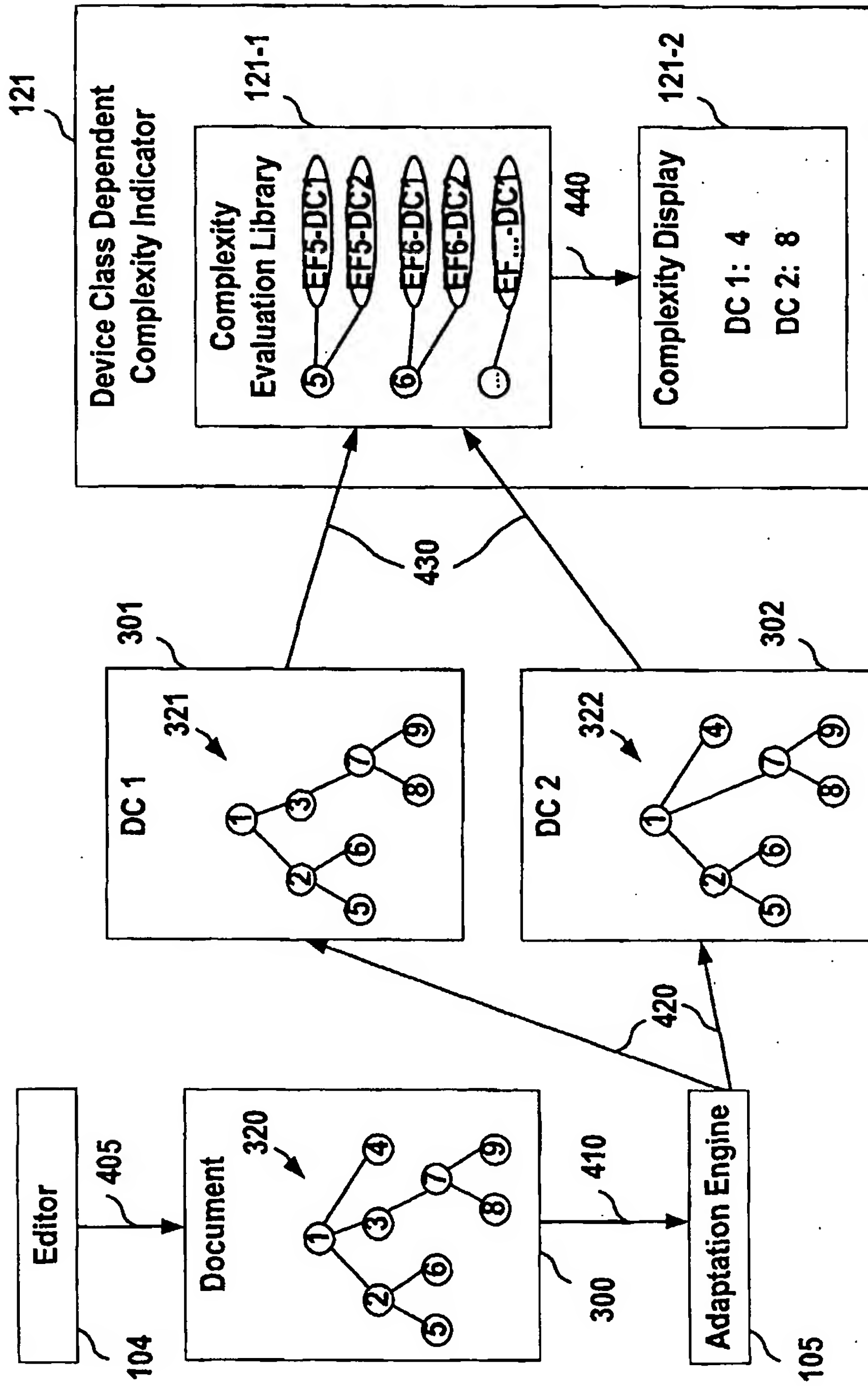


FIG. 7 999

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999

FIG. 8

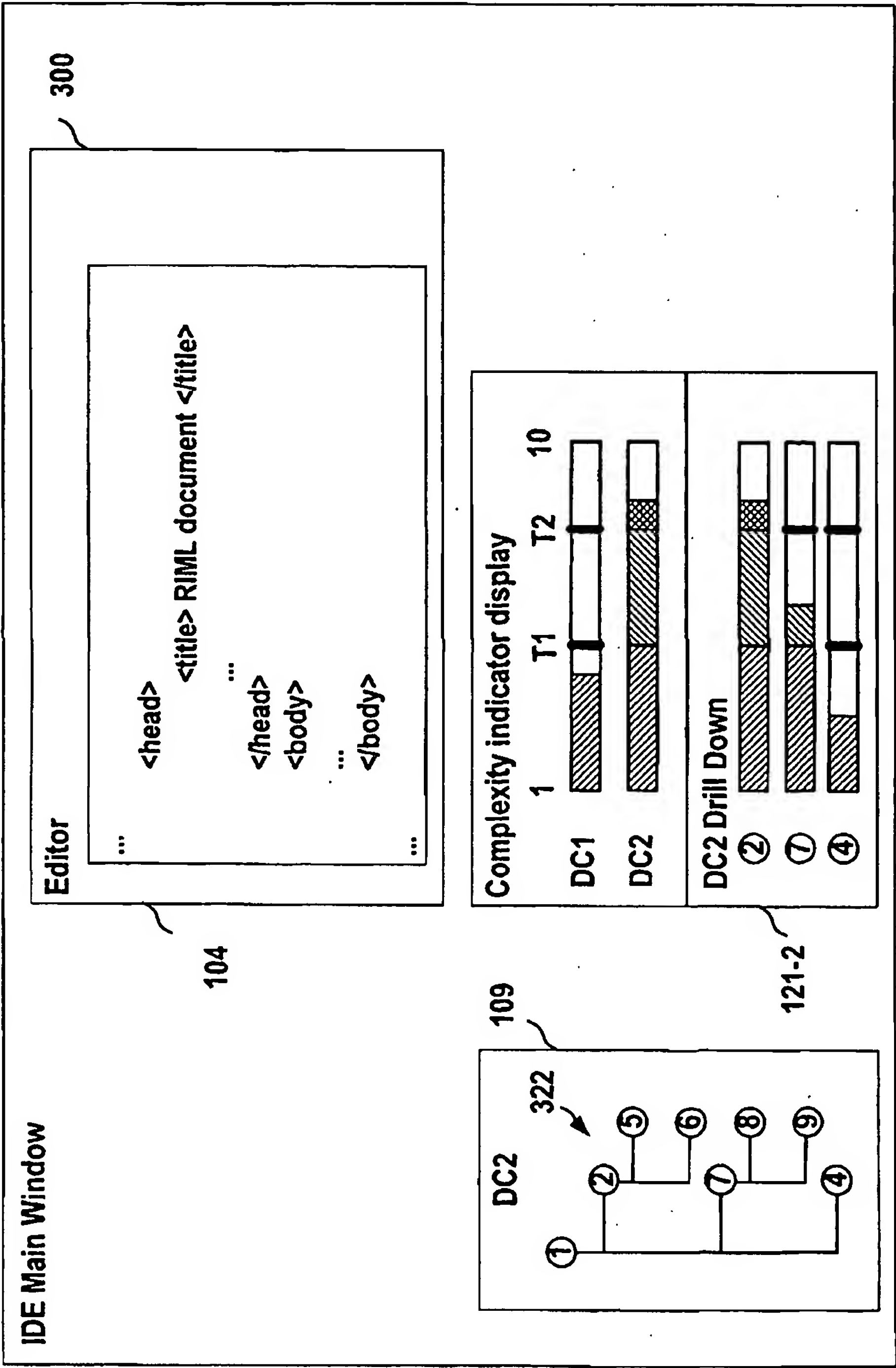


FIG. 9 999

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/053478A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F9/44

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, COMPENDEX, PAJ, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HORI M ET AL: "Annotation-based Web content transcoding" COMPUTER NETWORKS, ELSEVIER SCIENCE PUBLISHERS B.V., AMSTERDAM, NL, vol. 33, no. 1-6, June 2000 (2000-06), pages 197-211, XP004304767 ISSN: 1389-1286 page 203, left-hand column, line 15 - right-hand column, line 5 page 204, right-hand column, line 16 - page 205, left-hand column, line 6 figures 5,10	1,6,9, 10,13, 15-17
Y	----- -/--	2-5,7,8, 11,12,14

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

24 January 2005

Date of mailing of the international search report

03/02/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

de Man, A

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP2004/053478

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	ANONYMOUS: "XML Editor with Intelligent Editing" INTERNET ARTICLE, 'Online! 19 October 2002 (2002-10-19), pages 1-8, XP002280372 Retrieved from the Internet: URL:http://web.archive.org/web/20021019120 059/http://www.altova.com/features_editing .html> 'retrieved on 2004-05-13! page 1	2,3,5
Y	----- LESZEK P: "XML development with Eclipse" IBM DEVELOPERWORKS, 'Online! 8 April 2003 (2003-04-08), pages 1-7, XP002280373 Retrieved from the Internet: URL:http://www-106.ibm.com/developerworks/ library/os-ecxml/> 'retrieved on 2004-05-13! pages 2-3	4
Y	----- TICHY G: "Code Folding - User Interface Specification" INTERNET ARTICLE, 'Online! 22 September 2003 (2003-09-22), pages 1-4, XP002280374 Retrieved from the Internet: URL:http://www.netbeans.org/unbranded-sour ce/browse/{checkout{/ui/www/docs/ui/code_f olding/cf_uispec.html?rev=1.7&content-type =text/html> 'retrieved on 2004-05-14! the whole document	7
Y	----- WO 01/77822 A (SAP AG ;HAWLEY DAVID (JP)) 18 October 2001 (2001-10-18) page 31, line 30 - page 35, line 6 page 36, line 20 - page 37, line 2 figures 6-10 -----	8,11,12, 14

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/053478

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		JP 2001306308 A	02-11-2001
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		WO 0177822 A2	18-10-2001
		EP 1330707 A1	30-07-2003
		US 2004083463 A1	29-04-2004
		US 2004113930 A1	17-06-2004

SCHWEGMAN ■ LUNDBERG ■ WOESSNER ■ KLUTH

United States Patent Application
COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor I hereby declare that: my residence, post office address and citizenship are as stated below next to my name; that

I verily believe I am the original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled: **METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING**,

the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patent ability of this application in accordance with 37 C.F.R. § 1.56 (attached hereto). I also acknowledge my duty to disclose all information known to be material to patent ability which became available between a filing date of a prior application and the national or PCT international filing date in the event this is a Continuation-In-Part application in accordance with 37 C.F.R. § 1.63(e).

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

Foreign application(s), if any, claiming priority under 35 U.S.C. § 119:

<u>Application Number</u>	<u>Country</u>	<u>Day/Month/Year Filed</u>
EP03029190.0	European Patent Office	18/12/2003

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

No such claim for priority is being made at this time.

I hereby claim the benefit under 35 U.S.C. § 120 or 365(c) of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose material information as defined in 37 C.F.R. § 1.56(a) which became available between the filing date of the prior application and the national or PCT international filing date of this application:

<u>Application Number</u>	<u>Filing Date</u>	<u>Status</u>
PCTEP2004053478	December 15, 2004	Unfiled

I hereby appoint the attorneys associated with the customer number listed below to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith:

Customer Number: 50400

I hereby authorize them to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/organization/who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct Schwegman, Lundberg, Woessner & Kluth, P.A. to the contrary.

Please direct all correspondence in this case to Schwegman, Lundberg, Woessner & Kluth, P.A. at the address indicated below:

Customer Number. 50400

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of joint inventor number 1 : Marcus Lauff

Citizenship: Germany

Residence: Oftersheim Germany

Post Office Address: Mozarstr. 23
Oftersheim 68723

Signature: 
Marcus Lauff

Date: 26.5.2006

Full Name of joint inventor number 2 : Florent Nicoulaud

Citizenship: France

Residence: Juan-Les-Pins France

Post Office Address: Avenue du Docteur Fabre
Juan-Les-Pins 06160
France

Signature: _____
Florent Nicoulaud

Date: _____

Full Name of joint inventor number 3 : Samuel Rethore

Citizenship: France

Residence: Valbonne France

Post Office Address: 3, rue Henri Barbara
Valbonne 06560
France

Signature: _____
Samuel Rethore

Date: _____

☒ Additional inventors are being named on separately numbered sheets, attached hereto.

Full Name of joint inventor number 4: Patrice Seurat

Citizenship: France

Residence: Grasse France

Post Office Address: Bat. E Clair Logis
5 impasse Clair Logis
Grasse 06130
France

Signature: _____
Patrice Seurat

Date: _____

Full Name of joint inventor number 5: Pascal T.C. Spadone

Citizenship: France

Residence: Antibes France

Post Office Address: 38 rue Paul Bourgairel
Antibes 06600
France

Signature: _____
Pascal T.C. Spadone

Date: 22/05/2006

Full Name of joint inventor number 6: Axel Spriestersbach

Citizenship: Germany

Residence: Karlsruhe Germany

Post Office Address: Durlacher Allee 40
Karlsruhe 76131
Germany

Signature: _____
Axel Spriestersbach

Date: _____

Full Name of joint inventor number 7: Cedric S.P. Ulmer

Citizenship: France

Residence: Nice France

Post Office Address: 65, rue Rossini
Nice 06000
France

Signature: _____
Cedric S.P. Ulmer

Date: 22/05/2006

Full Name of joint inventor number 8: Thomas Ziegert

Citizenship: Germany

Residence: Darmstadt Germany

Post Office Address: Am Hopfengarten 4a
Darmstadt 64295
Germany

Signature: _____
Thomas Ziegert

Date: _____

1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
 - (i) Opposing an argument of unpatentability relied on by the Office, or
 - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

SCHWEGMAN ■ LUNDBERG ■ WOESSNER ■ KLUTH

United States Patent Application

COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor I hereby declare that: my residence, post office address and citizenship are as stated below next to my name; that

I verily believe I am the original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled: **METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING**,

the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patent ability of this application in accordance with 37 C.F.R. § 1.56 (attached hereto). I also acknowledge my duty to disclose all information known to be material to patent ability which became available between a filing date of a prior application and the national or PCT international filing date in the event this is a Continuation-In-Part application in accordance with 37 C.F.R. § 1.63(e).

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

Foreign application(s), if any, claiming priority under 35 U.S.C. § 119:

<u>Application Number</u>	<u>Country</u>	<u>Day/Month/Year Filed</u>
EP03029190.0	European Patent Office	18/12/2003

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

No such claim for priority is being made at this time.

I hereby claim the benefit under 35 U.S.C. § 120 or 365(c) of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose material information as defined in 37 C.F.R. § 1.56(a) which became available between the filing date of the prior application and the national or PCT international filing date of this application:

<u>Application Number</u>	<u>Filing Date</u>	<u>Status</u>
PCTEP2004053478	December 15, 2004	Unfiled

I hereby appoint the attorneys associated with the customer number listed below to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith:

Customer Number: 50400

I hereby authorize them to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/organization/who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct Schwegman, Lundberg, Woessner & Kluth, P.A. to the contrary.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

II Name of joint inventor number 1 : **Marcus Lauff**

Citizenship: **Germany**

Residence: **Oftersheim Germany**

Street Office Address: **Mozarstr. 23
Oftersheim 68723
Germany**

Signature: _____ Date: _____
 Marcus Lauff

II Name of joint inventor number 2 : **Florent Nicoulaud**

Citizenship: **France**

Residence: **Juan-Les-Pins France**

Street Office Address: **Avenue du Docteur Fabre
Juan-Les-Pins 06160
France**

Signature: _____ Date: _____
 Florent Nicoulaud

II Name of joint inventor number 3 : **Samuel Rethore**

Citizenship: **France**

Residence: **Valbonne France**

Street Office Address: **3, rue Henri Barbara
Valbonne 06560
France**

Signature: _____ Date: _____
 Samuel Rethore

☒ Additional inventors are being named on separately numbered sheets, attached hereto.

Full Name of joint inventor number 4: Patrice Seurat

Citizenship: France

Residence: Grasse France

Post Office Address: Bat. E Clair Logis
5 impasse Clair Logis
Grasse 06130
France

Signature: _____
Patrice Seurat

Date: _____

Full Name of joint inventor number 5: Pascal T.C. Spadone

Citizenship: France

Residence: Antibes France

Post Office Address: 38 rue Paul Bourgaud
Antibes 06600
France

Signature: _____
Pascal T.C. Spadone

Date: _____

Full Name of joint inventor number 6: Axel Spriestersbach

Citizenship: Germany

Residence: Karlsruhe Germany

Post Office Address: Durlacher Allee 40
Karlsruhe 76131
Germany

Signature: _____
Axel Spriestersbach

Date: _____

Full Name of joint inventor number 7: Cedric S.P. Ulmer

Citizenship: France

Residence: Nice France

Post Office Address: 65, rue Rossini
Nice 06000
France

Signature: _____
Cedric S.P. Ulmer

Date: _____

Full Name of joint inventor number 8: Thomas Ziegert

Citizenship: Germany

Residence: Darmstadt Germany

Post Office Address: Am Hopfengarten 4a
Darmstadt 64295
Germany

Signature: Thomas Ziegert
Thomas Ziegert

Date: 05/19/2006

1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by § 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
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 - (ii) Asserting an argument of patentability.

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(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

RECORDATION FORM COVER SHEET
PATENTS ONLY

Atty Ref/Docket No.: 2058.101US1

Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Markus Lauff, Pascal T.C. Spadone, Cedric S.P. Ulmer
and Thomas Ziegert

Additional name(s) of conveying party(ies) attached?
☐ Yes ☒ No

3. Nature of conveyance:

☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other

Execution Date: May 26, 2006, May 22, 2006, May 22,
2006, May 19, 2006

2. Name and address of receiving party(ies):

Name: SAP AG

Street Address: Dietmar-Hopp-Allee 16

Walldorf D-69190 Germany

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: May 26, 2006,
May 22, 2006, May 22, 2006, May 19, 2006

A. Patent Application No.(s)

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence
concerning document should be mailed:

Name: Andre L. Marais

Address:
Schwegman, Lundberg, Woessner & Kluth, P.A.
P.O. Box 2938
Minneapolis, MN 55402

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$ 40.00

☐ Enclosed

☒ Authorized to be charged to deposit account

8. Please charge any additional fees or credit any over
payments to our Deposit account number: 19-0743

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true
copy of the original document.

Andre L. Marais/Reg. No. 48,095
Name of Person Signing


Signature

06/16/06
Date

Total number of pages including cover sheet: 6

Mail documents to be recorded with required cover sheet information to:

Mail Stop Assignment Recordation Services
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ASSIGNMENT

WHEREAS, We, Marcus Lauff, residing at Mozarstr. 23, Oftersheim, 68723, Germany, and Florent Nicoulaud, residing at Avenue du Docteur Fabre, Juan-Les-Pins, 06160, France, and Samuel Rethore, residing at 3, rue Henri Barbara, Valbonne, 06560, France, and Patrice Seurat, residing at Bat. E Clair Logis, 5 impasse Clair Logis, Grasse, 06130, France, and Pascal T.C. Spadone, residing at 38 rue Paul Bourgarel, Antibes, 06600, France, and Axel Spriestersbach, residing at Durlacher Allee 40, Karlsruhe, 76131, Germany, and Cedric S.P. Ulmer, residing at 65, rue Rossini, Nice, 06000, France, and Thomas Ziegert, residing at Am Hopfengarten 4a, Darmstadt, 64295, Germany, made certain new and useful inventions and improvements for which we executed an application for Letters Patent of the United States on even date herewith, which is entitled METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORING;

AND WHEREAS, SAP AG, a corporation organized and existing under and by virtue of the laws of the State of Germany, and having an office and place of business at Dietmar-Hopp-Allee 16, Walldorf, D-69190 Germany (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said inventions, improvements and application and in and to the Letters Patent to be obtained therefor;

NOW, THEREFORE, to all whom it may concern, be it known that for good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged, we have sold, assigned, and transferred, and by these presents do sell, assign and transfer unto said Assignee, its successors or assigns, the entire right, title and interest for all countries in and to all inventions and improvements disclosed in the aforesaid application, and in and to the said application, all divisions, continuations, continuations-in-part, or renewals thereof, all Letters Patent which may be granted there from, and all reissues or extensions of such patents, and in and to any and all applications which have been or shall be filed in any foreign countries for Letters Patent on the said inventions and improvements, including an assignment of all rights under the provisions of the International Convention, and all Letters Patent of foreign countries which may be granted there from; and we do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent for the aforesaid inventions and improvements to the said Assignee as the assignee of the entire right, title and interest in and to the same, for the use of the said Assignee, its successors and assigns.

AND, for the consideration aforesaid, we do hereby agree that we and our executors and legal representatives will make, execute and deliver any and all other instruments in writing including any and all further application papers, affidavits, assignments and other documents, and will communicate to said Assignee, its successors and representatives all facts known to us relating to said improvements and the history thereof and will testify in all legal proceedings and generally do all things which may be necessary or desirable more effectually to secure to and vest in said Assignee, its successors or assigns the entire right, title and interest in and to the said improvements, inventions, applications, Letters Patent, rights, titles, benefits, privileges and advantages hereby sold, assigned and conveyed, or intended so to be.

AND, furthermore, we covenant and agree with said Assignee, its successors and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by us and that full right to convey the same as herein expressed is possessed by us.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 26 day of May, 2006.



Marcus Lauff

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Florent Nicoulaud

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Samuel Rethore

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Patrice Seurat

IN TESTIMONY WHEREOF, I have hereunto set my hand this 22nd day of May, 2006.



Pascal T. Spadone

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Axel Spriestersbach

IN TESTIMONY WHEREOF, I have hereunto set my hand this 22nd day of May, 2006.



Cedric S. Ulmer

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Thomas Ziegert

ASSIGNMENT

WHEREAS, We, Marcus Lauff, residing at Mozarstr. 23, Oftersheim, 68723, Germany, and Florent Nicoulaud, residing at Avenue du Docteur Fabre, Juan-Les-Pins, 06160, France, and Samuel Rethore, residing at 3, rue Henri Barbara, Valbonne, 06560, France, and Patrice Seurat, residing at Bat. E Clair Logis, 5 impasse Clair Logis, Grasse, 06130, France, and Pascal T.C. Spadone, residing at 38 rue Paul Bourgarel, Antibes, 06600, France, and Axel Priestersbach, residing at Durlacher Allee 40, Karlsruhe, 76131, Germany, and Cedric S.P. Ulmer, residing at 65, rue Rossini, Nice, 06000, France, and Thomas Ziegert, residing at Am Hopfengarten 4a, Darmstadt, 64295, Germany, made certain new and useful inventions and improvements for which we executed an application for Letters Patent of the United States on even date herewith, which is entitled METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING;

AND WHEREAS, SAP AG, a corporation organized and existing under and by virtue of the laws of the State of Germany, and having an office and place of business at Dietmar-Hopp-Allee 16, Walldorf, D-69190 Germany (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said inventions, improvements and application and in and to the Letters Patent to be obtained therefor;

NOW, THEREFORE, to all whom it may concern, be it known that for good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged, we have sold, assigned, and transferred, and by these presents do sell, assign and transfer unto said Assignee, its successors or assigns, the entire right, title and interest for all countries in and to all inventions and improvements disclosed in the aforesaid application, and in and to the said application, all divisions, continuations, continuations-in-part, or renewals thereof, all Letters Patent which may be granted there from, and all reissues or extensions of such patents, and in and to any and all applications which have been or shall be filed in any foreign countries for Letters Patent on the said inventions and improvements, including an assignment of all rights under the provisions of the International Convention, and all Letters Patent of foreign countries which may be granted there from; and we do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent for the aforesaid inventions and improvements to the said Assignee as the assignee of the entire right, title and interest in and to the same, for the use of the said Assignee, its successors and assigns.

AND, for the consideration aforesaid, we do hereby agree that we and our executors and legal representatives will make, execute and deliver any and all other instruments in writing including any and all further application papers, affidavits, assignments and other documents, and will communicate to said Assignee, its successors and representatives all facts known to us relating to said improvements and the history thereof and will testify in all legal proceedings and generally do all things which may be necessary or desirable more effectually to secure to and vest in said Assignee, its successors or assigns the entire right, title and interest in and to the said improvements, inventions, applications, Letters Patent, rights, titles, benefits, privileges and advantages hereby sold, assigned and conveyed, or intended so to be.

AND, furthermore, we covenant and agree with said Assignee, its successors and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by us and that full right to convey the same as herein expressed is possessed by us.

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Marcus Lauff

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Florent Nicoulaud

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Samuel Rethore

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Patrice Seurat

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Pascal T. Spadone

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Axel Spriestersbach

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Cedric S. Ulmer

IN TESTIMONY WHEREOF, I have hereunto set my hand this 19 day of May, 2006.

Thomas Ziegert
Thomas Ziegert

S/N Unknown

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Markus Lauff et al.	Examiner:	Unknown
Serial No.:	Unknown	Group Art Unit:	Unknown
Filed:	Herewith	Docket:	2058.101US1
Title:	METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING		

INFORMATION DISCLOSURE STATEMENT

MS PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(b), it is believed that no fee or statement is required with the Information Disclosure Statement.

INFORMATION DISCLOSURE STATEMENT

Serial No :Unknown

Filing Date: Herewith

Title: METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING

Page 2

Dkt: 2058.101US1

The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

Pursuant to 37 C.F.R. 1.98(a)(2), Applicant believes that copies of cited U.S. Patents and Published Applications, and Non-Published Applications identifiable by USPTO Serial Number, are no longer required to be provided to the Office. Notification to this effect was provided in the United States Patent and Trademark Office OG Notices dated October 12, 2004 and October 19, 2004. Thus, Applicant has not included copies of any US Patents or US Patent Applications identifiable by serial number that may be cited with this submission. Should the Office require copies to be provided, Applicant respectfully requests that notice of such requirement be directed to Applicant's below-signed representative. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).

Respectfully submitted,

MARKUS LAUFF ET AL.

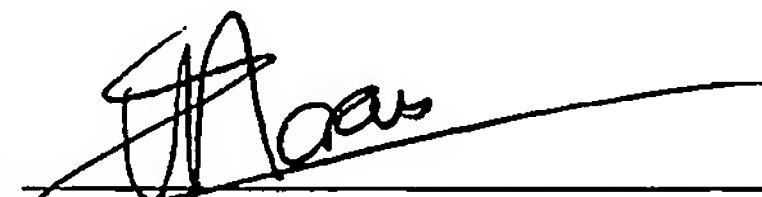
By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
408-278-4042

Date

06/16/06

By



Andre L. Marais
Reg. No. 48,095

Reg. No. 48,095

Express Mail mailing label number: EV538500217US

Date of Deposit: June 16, 2006

This paper or fee is being deposited on the date indicated above with the United States Postal Service pursuant to 37 CFR 1.10, and is addressed to The Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>	<i>Complete if Known</i>	
	Application Number	Unknown
	Filing Date	Even Date Herewith
	First Named Inventor	Lauff, Marcus
	Group Art Unit	Unknown
	Examiner Name	Unknown
Sheet 1 of 1	Attorney Docket No: 2058.101US1	

US PATENT DOCUMENTS				
Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Filing Date If Appropriate

FOREIGN PATENT DOCUMENTS				
Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	T ²
	WO-0177822	10/18/2001	Hawley, David	

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		"Search Report for International Application No.", (01/25/2005), 3 pgs	
		"XML Editor with Intelligent Editing", http://web.archive.org/web/20021019120059/http://www.altova.com/features_editing.html , (2005), 8 pgs	
		HORI, MASAHIRO, et al., "Annotation-Based Web Content Transcoding", Computer Networks, 33, (June 2000), 197-211	
		LESZEK, P., "XML Development with Eclipse", http://www-128.ibm.com/developerworks/library/os-ecxml/ ,	
		TICHY, G, "Code folding - user interface specification",	

EXAMINER

DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1440)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional) ² Applicant is to place a check mark here if English language Translation is attached

ASSIGNMENT

WHEREAS, We, Florent Nicoulaud, residing at Avenue du Docteur Fabre, Juan-Les-Pins, 06160, France, and Samuel Rethore, residing at 3, rue Henri Barbara, Valbonne, 06560, France, and Patrice Seurat, residing at 11 chemin des Comtesses, Villa n 6, Domaine des Oliviers, Grasse, 06130, France, and Axel Spriestersbach, residing at Durlacher Allee 40, Karlsruhe, 76131, Germany, made certain new and useful inventions and improvements for which we filed an application for Letters Patent of the United States on June 16, 2006, which application was assigned U.S. patent application serial number 10/583,184, and is entitled METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING;

AND WHEREAS, SAP AG, a corporation organized and existing under and by virtue of the laws of the Country of Germany, and having an office and place of business at Dietmar-Hopp-Allee 16, Walldorf, D-69190 Germany (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said inventions, improvements and application and in and to the Letters Patent to be obtained therefor;

NOW, THEREFORE, to all whom it may concern, be it known that for good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged, we have sold, assigned, and transferred, and by these presents do sell, assign and transfer unto said Assignee, its successors or assigns, the entire right, title and interest for all countries in and to all inventions and improvements disclosed in the aforesaid application, and in and to the said application, all divisions, continuations, continuations-in-part, or renewals thereof, all Letters Patent which may be granted there from, and all reissues or extensions of such patents, and in and to any and all applications which have been or shall be filed in any foreign countries for Letters Patent on the said inventions and improvements, including an assignment of all rights under the provisions of the International Convention, and all Letters Patent of foreign countries which may be granted there from; and we do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent for the aforesaid inventions and improvements to the said Assignee as the assignee of the entire right, title and interest in and to the same, for the use of the said Assignee, its successors and assigns.

AND, for the consideration aforesaid, we do hereby agree that we and our executors and legal representatives will make, execute and deliver any and all other instruments in writing including any and all further application papers, affidavits, assignments and other documents, and will communicate to said Assignee, its successors and representatives all facts known to us relating to said improvements and the history thereof and will testify in all legal proceedings and generally do all things which may be necessary or desirable more effectually to secure to and vest in said Assignee, its successors or assigns the entire right, title and interest in and to the said improvements, inventions, applications, Letters Patent, rights, titles, benefits, privileges and advantages hereby sold, assigned and conveyed, or intended so to be.

AND, furthermore, we covenant and agree with said Assignee, its successors and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by us and that full right to convey the same as herein expressed is possessed by us.

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Florent Nicoulaud

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Samuel Rethore

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Patrice Seurat

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2006.

Axel Spriestersbach

SCHWEGMAN ■ LUNDBERG ■ WOESSNER ■ KLUTH

United States Patent Application
COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor I hereby declare that: my residence, post office address and citizenship are as stated below next to my name; that

I verily believe I am the original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled: **METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING**,

the specification of which was filed on June 16, 2006 as application serial no. 10/583,184.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patent ability of this application in accordance with 37 C.F.R. § 1.56 (attached hereto). I also acknowledge my duty to disclose all information known to be material to patent ability which became available between a filing date of a prior application and the national or PCT international filing date in the event this is a Continuation-In-Part application in accordance with 37 C.F.R. § 1.63(e).

I hereby claim foreign priority benefits under 35 U.S.C. §119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

Foreign application(s), if any, claiming priority under 35 U.S.C. § 119:

<u>Application Number</u>	<u>Country</u>	<u>Day/Month/Year Filed</u>
EP030291900	European Patent Office	18/12/2003

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

No such claim for priority is being made at this time.

I hereby claim the benefit under 35 U.S.C. § 120 or 365(c) of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose material information as defined in 37 C.F.R. § 1.56(a) which became available between the filing date of the prior application and the national or PCT international filing date of this application:

<u>Application Number</u>	<u>Filing Date</u>	<u>Status</u>
PCTEP2004053478	December 15, 2004	Unfiled

I hereby appoint the attorneys associated with the customer number listed below to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith:

Customer Number: 50400

I hereby authorize them to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/organization/who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct Schwegman, Lundberg, Woessner & Kluth, P.A. to the contrary.

Please direct all correspondence in this case to **Schwegman, Lundberg, Woessner & Kluth, P.A.** at the address indicated below:

Customer Number. 50400

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of joint inventor number 1 : **Markus Lauff**

Citizenship: **Germany**

Residence: **Oftersheim Germany**

Post Office Address: **Mozarstr. 23
Oftersheim 68723
Germany**

Signature: _____
Markus Lauff

Date: _____

Full Name of joint inventor number 2 : **Florent Nicoulaud**

Citizenship: **France**

Residence: **Juan-Les-Pins France**

Post Office Address: **Avenue du Docteur Fabre
Juan-Les-Pins 06160
France**

Signature: _____
Florent Nicoulaud

Date: _____

Full Name of joint inventor number 3 : **Samuel Rethore**

Citizenship: **France**

Residence: **Valbonne France**

Post Office Address: **3, rue Henri Barbara
Valbonne 06560
France**

Signature: _____
Samuel Rethore

Date: _____

Full Name of joint inventor number 4 : **Patrice Seurat**

Citizenship: **France**

Residence: **Grasse France**

Post Office Address: 11 chemin des Comtesses
Villa n 6
Domaine des Oliviers
Grasse 06130
France

Signature: _____
Patrice Seurat

Date: _____

Full Name of joint inventor number 5 : **Pascal T.C. Spadone**

Citizenship: **France**

Residence: **Antibes France**

Post Office Address: 38 rue Paul Bourgarel
Antibes 06600
France

Signature: _____
Pascal T.C. Spadone

Date: _____

Full Name of joint inventor number 6 : **Axel Spriestersbach**

Citizenship: **Germany**

Residence: **Karlsruhe Germany**

Post Office Address: Durlacher Allee 40
Karlsruhe 76131
Germany

Signature: _____
Axel Spriestersbach

Date: _____

Full Name of joint inventor number 7 : **Cedric S.P. Ulmer**

Citizenship: **France**

Residence: **Nice France**

Post Office Address: 65, rue Rossini
Nice 06000
France

Signature: _____
Cedric S.P. Ulmer

Date: _____

Full Name of joint inventor number 8 : **Thomas Ziegert**

Citizenship: **Germany**

Residence: **Darmstadt Germany**

Post Office Address: Am Hopfengarten 4a
Darmstadt 64295
Germany

Signature: _____
Thomas Ziegert

Date: _____

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
 - (i) Opposing an argument of unpatentability relied on by the Office, or
 - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

Matter: [2058.101US1] METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING



From: christine.chaux-luedtke@sap.com

Date / Time Sent: Sep 4, 2006 7:18:24 AM

To: Nancy Cournoyer

CC:

Subject: FW: 2003P00960WOUS - SLWK - Ref: 2058.101US1 / SAP AG : URGENT ACTION REQUIRED: SIGNATURES ON FORMAL DOCUMENTS REQUESTED

Attachment: TIF1.TIF (165 KB)  

Contents: Please find the attachments... <<TIF1.TIF>>

Best regards,

Christine

-----Original Message-----

From: Chaux-Luedtke, Christine
Sent: Montag, 4. September 2006 14:03
To: 'ncournoyer@slwkclient.com'
Subject: RE: 2003P00960WOUS - SLWK - Ref: 2058.101US1 / SAP AG : URGENT ACTION REQUIRED: SIGNATURES ON FORMAL DOCUMENTS REQUESTED [R=a515ad1eacd9848dee2c0234aa6c0c33]

Dear Nancy,

Sorry to come to you only now.

Please confirm that I am up-to-date with that case:
We are now missing the signature of F. Nicoulaud and S. Rethore: is that correct?

On June 7, 2006 we sent by registered mail the documents to be executed to S. Rethore and F. Nicoulaud (see attachment)

- The letter to S. Rethore has been delivered to him: we have the proof of delivery (see attachment)

- Concerning F. Nicoulaud: these documents haven't reach the addressee.

The addressee has been notified by the french post that mail his waiting for him. Standart procedure is that the french post office keeps mails for up to 14 days and if the reciepiant doesn't pick up his mail, then everything is send back to the sender.

We send a second time the documents to Florent Nicoulaud by registered mail: and like the first time, the documents haven't reached the addressee

Which email address did you try?

Samuel RETHORE:
srethore@sle-fr.com
Samuel.rethore@wanadoo.fr

Florent NICOULAUD
florent.nicoulaud@essi.fr

P. Seurat:
seurat@essi.fr

Please just let me know, if I can be of any help and please let me know if the inventors reacted to your email.

Best regards,

Christine

-----Original Message-----

From: Nancy J Cournoyer [mailto:ncournoyer@slwkclient.com]

Sent: Dienstag, 15. August 2006 16:06

To: Chaux-Luedtke, Christine

Cc: Peter Bittner; Andre Marais; Dawn Shaw

Subject: 2003P00960WOUS - SLWK - Ref: 2058.101US1 / SAP AG : URGENT
ACTION REQUIRED: SIGNATURES ON FORMAL DOCUMENTS REQUESTED
[R=a515ad1eacd9848dee2c0234aa6c0c33]

August 15, 2006

Dear Christine:

I am sending this email as a follow up to my August 5th request for formal documents. We have not received any communications from the inventors. In addition, the email addresses we have for Nicoulaud and Rethore are not correct. The email I sent to them on August 5th was returned as undeliverable.

Please update me or Dawn Shaw as soon as possible. We are still in need of an email for P. Seurat as well.

Dawn and I appreciate your time and assistance in gathering the information.

Best regards,

Nancy Cournoyer
Case Manager



SAP AG

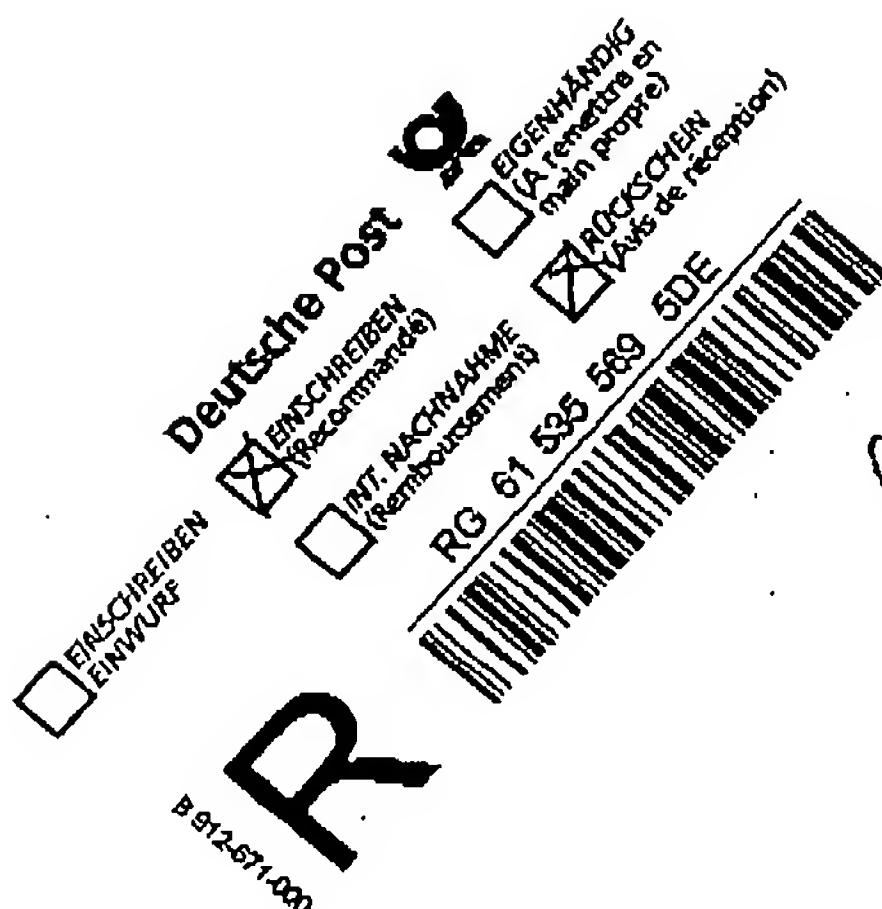
Tel: 06227/7-64412

Fax: 06227/7-64433

Dietrich-Hopp-Allee 16

D-69190 Walldorf

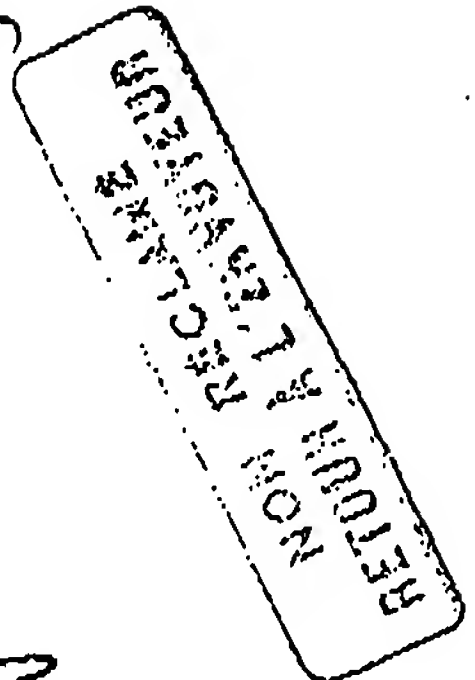
- AR-Rückschein / Avis de réception / Advice of delivery -

LUTIPOST
PAR AVION
PRIORITAIREPort payé
D-69309 Mannheim
ALLEMAGNEAbsent aware
Soft faxRECEIVED
A L'ENVOYEUR
RECEIVED

Patent

Monsieur
Florent Napoléon
20, Avenue du Docteur Fabre
06160 Juan-les-Pins
France

- AR-Rückschein / Avis de réception / Advice of delivery -



Deutsche Post AG Rückschein / Auszahlungsscheine / Gutschriftsanzeige Entreprise des Postes allemandes S. A. Avis de réception / Avis de paiement / Avis d'inscription CN 07		Postache Service des postes Stempel des Postamts, das den Schein zurücksendet, Anfang der letzten remoyance faire	
Einlieferungsfiliale / Bureau de dépôt Datum / Date		Adresse des Postamts, das den Schein zurücksendet, Anfang der letzten remoyance faire	
Empfänger der Sendung / Destinataire de l'envoi SAMUEL RETHORE 3 Rue Barbara 63500 Valbonne FR		RG 61 535 474 3DE	
Art der Sendung / Nature de l'envoi <input checked="" type="checkbox"/> Brief / Vorrang Lettre / Prioritaire <input type="checkbox"/> Paket Colis <input checked="" type="checkbox"/> Einschreiben Recommandé <input type="checkbox"/> Wertgegenstand Valeur déclarée Betrag / Montant		Luftpost Prioritaire Par avion	
Einlieferungs-Nr. der Sendung / N° de l'envoi Gewöhnliche Anweisung / Mandat ordinaire Zahlungs- / Auslieferungsschein / Cheque / Remittance		Zurücksenden an / Remvoyer à / Return to Name oder Firma / Nom ou raison sociale	
Vom Absender auszufüllen / À remplir par l'expéditeur			
Am Bestimmungsort auszufüllen / À compléter à destination			
O. g. Sendung/Betrag wurde ordnungsgemäß / L'envoi/montant ci-dessus a été déposé			
ausgehend remis		dem Postbankkonto gutgeschrieben inscrit au C/P	
Datum und Unterschrift / Date et signature			
Diese(r) Schien(en) kann(n) vom Empfänger oder wenn die Vorschriften der Bestimmungen dieses Gesetzes, von einem Beauftragten oder Mitarbeiter des Bestimmungsorts unterschrieben werden. Cet avis pourra être signé par le destinataire ou, si les règlements du pays de destination le permettent, par une autre personne autorisée au par l'agent du bureau de destination.			

Matter: [2058.101US1] METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING



From: Dennis Wong



Date / Time Sent: Apr 17, 2007 12:12:07 PM

To: Florent Nicoulaud; Samuel Rethore

CC:

Subject: CONFIDENTIAL - SAP AG : 2003P00960WOUS / SLWK Ref: 2058.101US1 / ACTION REQUESTED: INVENTOR SIGNATURES NEEDED FOR FORMAL DOCUMENTS

Attachment: 2058.101US1 Declaration-POA.pdf (44 KB)  

Contents: 2058.101US1 Assignment.pdf (47 KB)  
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

Action Needed: Inventor Signatures for Declaration/Power of Attorney and Assignment

NOTE: Please use attached documents.

Due Date: June 4, 2007

Requested By: May 4, 2007

Samuel Rethore
Florent Nicoulaud

c/o SAP AG
Dietmar-Hopp-Allee 16
Walldorf 69190
Germany

Re: SAP AG Ref. No.: 2003P00960WOUS
SLWK Ref. No.: 2058.101US1
U.S. Patent Application Serial Number: 10/583,184
Title: METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING

Dear Inventors:

In review of this file, I have noted we have not yet received a signed Declaration/Power of Attorney and Assignment from you. Both documents for signature are attached to this e-mail for your convenience.

Attached is a Combined Declaration and Power of Attorney document that must be executed to complete the filing requirements for the above-referenced patent application. Please sign and date the document where indicated.

We have also attached an Assignment document to be executed by you. Please sign and date the Assignment document in the presence of two witnesses.

If your (inventor) information is incorrect on either of the above-mentioned documents, please have the manually correct the error(s), initialing and dating all changes. The Patent Office will not accept the documents if the changes are not initialed and dated by the inventor.

Please return the original set of executed documents to my attention by May 4, 2007. The first due date for filing these documents with the PTO is June 4, 2007. If the documents are not submitted by this date, an extension fee will be required in order to proceed with this matter. The June 4, 2007 deadline is extendable up to five months.

NOTE: The FINAL DUE DATE for these documents is November 4, 2007, if the documents are not filed by November 4, 2007 this application will become ABANDONED.

You may fax copies of the signed documents to Dennis Wong at +1-612-339-3061.

Mail the originals to:

Christine Chaux-Luedtke
SAP AG
Dietmar-Hopp-Allee 16
Walldorf 69190
Germany

If you have any questions regarding this matter, please contact Andre L. Marais at (408) 278-4042.

Very truly yours,

Dennis C. Wong
Case Management Assistant

Attachment

This electronic transmission contains information which is confidential and/or privileged. The information is intended for use only by the individual or entity named above. If you are not the intended recipient (or the employee or agent responsible for delivering this information to the intended recipient), you are hereby notified that any use, dissemination, distribution, or copying of this communication is prohibited. If you have received this information in error, please notify me immediately by telephone at 612-373-6900 or by electronic mail and delete all copies of the transmission. Thank you.

Schwegman, Lundberg, Woessner & Kluth P.A
1600 TCF Tower, 121 South Eighth Street, Minneapolis, MN 55402
Telephone: (612) 373-6900 Fax: (612) 339-3061 Web site: www.slwk.com

SCHWEGMAN ■ LUNDBERG ■ WOESSNER ■ KLUTH

United States Patent Application

COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor I hereby declare that: my residence, post office address and citizenship are as stated below next to my name; that

I verily believe I am the original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled: **METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORIZING**,

the specification of which was filed on June 16, 2006 as application serial no. 10/583,184.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with 37 C.F.R. § 1.56 (attached hereto). I also acknowledge my duty to disclose all information known to be material to patentability which became available between a filing date of a prior application and the national or PCT international filing date in the event this is a Continuation-In-Part application in accordance with 37 C.F.R. § 1.63(e).

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

Foreign application(s), if any, claiming priority under 35 U.S.C. § 119:

<u>Application Number</u>	<u>Country</u>	<u>Day/Month/Year Filed</u>
EP03029190.0	European Patent Office	18/12/2003

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

No such claim for priority is being made at this time.

I hereby claim the benefit under 35 U.S.C. § 120 or 365(c) of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose material information as defined in 37 C.F.R. § 1.56(a) which became available between the filing date of the prior application and the national or PCT international filing date of this application:

<u>Application Number</u>	<u>Filing Date</u>	<u>Status</u>
PCT/EP2004/053478	December 15, 2004	Unfiled

I hereby appoint the attorneys associated with the customer number listed below to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith:

Customer Number: 50400

I hereby authorize them to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/organization/who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct Schwegman, Lundberg, Woessner & Kluth, P.A. to the contrary.

Please direct all correspondence in this case to **Schwegman, Lundberg, Woessner & Kluth, P.A.** at the address indicated below:

Customer Number: 50400

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of joint inventor number 1 : **Markus Lauff**

Citizenship: **Germany**

Residence: **Oftersheim Germany**

Post Office Address: **Mozarstr. 23
Oftersheim 68723
Germany**

Signature: _____

Date: _____

Markus Lauff

Full Name of joint inventor number 2 : **Florent Nicoulaud**

Citizenship: **France**

Residence: **Juan-Les-Pins France**

Post Office Address: **Avenue du Docteur Fabre
Juan-Les-Pins 06160
France**

Signature: _____

Date: _____

Florent Nicoulaud

Full Name of joint inventor number 3 : **Samuel Rethore**

Citizenship: **France**

Residence: **Valbonne France**

Post Office Address: **3, rue Henri Barbara
Valbonne 06560
France**

Signature: _____

Date: _____

Samuel Rethore

☒ Additional inventors are being named on separately numbered sheets, attached hereto.

Full Name of joint inventor number 4 : **Patrice Seurat**

Citizenship: **France**

Residence: **Grasse France**

Post Office Address: 11 chemin des Comtesses
Villa n 6
Domaine des Oliviers
Grasse 06130
France

Signature: _____
Patrice Seurat

Date: _____

Full Name of joint inventor number 5 : **Pascal T.C. Spadone**

Citizenship: **France**

Residence: **Antibes France**

Post Office Address: 38 rue Paul Bourgarel
Antibes 06600
France

Signature: _____
Pascal T.C. Spadone

Date: _____

Full Name of joint inventor number 6 : **Axel Priestersbach**

Citizenship: **Germany**

Residence: **Karlsruhe Germany**

Post Office Address: Durlacher Allee 40
Karlsruhe 76131
Germany

Signature: _____
Axel Priestersbach

Date: _____

Full Name of joint inventor number 7 : **Cedric S.P. Ulmer**

Citizenship: **France**

Residence: **Nice France**

Post Office Address: 65, rue Rossini
Nice 06000
France

Signature: _____
Cedric S.P. Ulmer

Date: _____

Full Name of joint inventor number 8 : **Thomas Ziegert**

Citizenship: **Germany**

Residence: **Darmstadt Germany**

Post Office Address: Am Hopfengarten 4a
Darmstadt 64295
Germany

Signature: _____
Thomas Ziegert

Date: _____

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
 - (i) Opposing an argument of unpatentability relied on by the Office, or
 - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

ASSIGNMENT

WHEREAS, We, Markus Lauff, residing at Mozarstr. 23, Oftersheim, 68723, Germany, and Florent Nicoulaud, residing at Avenue du Docteur Fabre, Juan-Les-Pins, 06160, France, and Samuel Rethore, residing at 3, rue Henri Barbara, Valbonne, 06560, France, and Patrice Seurat, residing at 11 chemin des Comtesses, Villa n 6, Domaine des Oliviers, Grasse, 06130, France, and Pascal T.C. Spadone, residing at 38 rue Paul Bourgarel, Antibes, 06600, France, and Axel Spriestersbach, residing at Durlacher Allee 40, Karlsruhe, 76131, Germany, and Cedric S.P. Ulmer, residing at 65, rue Rossini, Nice, 06000, France, and Thomas Ziegert, residing at Am Hopfengarten 4a, Darmstadt, 64295, Germany, made certain new and useful inventions and improvements for which we filed an application for Letters Patent of the United States on June 16, 2006, which application was assigned U.S. patent application serial number 10/583,184, and is entitled METHOD AND COMPUTER SYSTEM FOR DOCUMENT AUTHORING;

AND WHEREAS, SAP AG, a corporation organized and existing under and by virtue of the laws of the Country of Germany, and having an office and place of business at Dietmar-Hopp-Allee 16, Walldorf, D-69190 Germany (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said inventions, improvements and application and in and to the Letters Patent to be obtained therefor;

NOW, THEREFORE, to all whom it may concern, be it known that for good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged, we have sold, assigned, and transferred, and by these presents do sell, assign and transfer unto said Assignee, its successors or assigns, the entire right, title and interest for all countries in and to all inventions and improvements disclosed in the aforesaid application, and in and to the said application, all divisions, continuations, continuations-in-part, or renewals thereof, all Letters Patent which may be granted there from, and all reissues or extensions of such patents, and in and to any and all applications which have been or shall be filed in any foreign countries for Letters Patent on the said inventions and improvements, including an assignment of all rights under the provisions of the International Convention, and all Letters Patent of foreign countries which may be granted there from; and we do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent for the aforesaid inventions and improvements to the said Assignee as the assignee of the entire right, title and interest in and to the same, for the use of the said Assignee, its successors and assigns.

AND, for the consideration aforesaid, we do hereby agree that we and our executors and legal representatives will make, execute and deliver any and all other instruments in writing including any and all further application papers, affidavits, assignments and other documents, and will communicate to said Assignee, its successors and representatives all facts known to us relating to said improvements and the history thereof and will testify in all legal proceedings and generally do all things which may be necessary or desirable more effectually to secure to and vest in said Assignee, its successors or assigns the entire right, title and interest in and to the said improvements, inventions, applications, Letters Patent, rights, titles, benefits, privileges and advantages hereby sold, assigned and conveyed, or intended so to be.

AND, furthermore, we covenant and agree with said Assignee, its successors and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by us and that full right to convey the same as herein expressed is possessed by us.

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2007.

Markus Lauff

First Witness:

Full Name (Please Print)

Signature

Date

Second Witness:

Full Name (Please Print)

Signature

Date

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2007.

Florent Nicoulaud

First Witness:

Full Name (Please Print)

Signature

Date

Second Witness:

Full Name (Please Print)

Signature

Date

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2007.

Samuel Rethore

First Witness:

Full Name (Please Print)

Signature

Date

Second Witness:

Full Name (Please Print)

Signature

Date

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2007.

Patrice Seurat

First Witness:

Full Name (Please Print)

Signature

Date

Second Witness:

Full Name (Please Print)

Signature

Date

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2007.

Pascal T. Spadone

First Witness:

Full Name (Please Print)

Signature

Date

Second Witness:

Full Name (Please Print)

Signature

Date

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2007.

Axel Spriestersbach

First Witness:

Full Name (Please Print)

Signature

Date

Second Witness:

Full Name (Please Print)

Signature

Date

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2007.

Cedric S. Ulmer

First Witness:

Full Name (Please Print)

Signature

Date

Second Witness:

Full Name (Please Print)

Signature

Date

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2007.

Thomas Ziegert

First Witness:

Full Name (Please Print)

Signature

Date

Second Witness:

Full Name (Please Print)

Signature

Date